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Proceedings of the International
Congress of Americanists, 13th
Session, New York, 1902.

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INTERNATIONAL CONGRESS

OF

AMERICANISTS.

13th, New York,
1902

[Papers]

THIRTEENTH SESSION

HELD IN

NEW YORK IN 1902

68896
177706

EASTON, PA. :
ESCHENBACH PRINTING COMPANY.
1905

PREFACE.

The publication of this volume, containing the proceedings of the Congress of Americanists held in New York in the autumn of 1902, was entrusted to a committee of three, consisting of Prof. F. W. Putnam, Prof. Franz Boas, and M. H. Saville. This committee made a selection of the papers to be printed, and found that the cost of issuing the volume would exceed the income of the Congress from members' subscriptions. Through contributions made by Mr. Morris K. Jesup and the Duke of Loubat, it has been possible to print the volume as it is now issued. The junior member of the committee is responsible for the delay in its appearance. Circumstances have retarded its publication, and the responsible editor wishes to apologize to the members of the Congress for the long delay in placing the proceedings in their hands.

M. H. SAVILLE.

New York, March, 1905.

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PROCEEDINGS

OF

International Congress of Americanists,

HELD IN THE

American Museum of Natural History, New York,

OCTOBER 20 TO 25, 1902.

THIRTEENTH SESSION.

TRANSMISSION OF POWER.

At the twelfth session of the International Congress of Americanists held in Paris, September, 1900, it was voted to accept the invitation of Mr. Morris K. Jesup, President of the American Museum of Natural History, New York, to hold the next session of the Congress in New York. Mr. Jesup and the Duke of Loubat were appointed to organize the thirteenth session.

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The subjects to be discussed by the Congress relate to—

- I. The Native Races of America; their Origin, Distribution, History, Physical Characteristics, Languages, Inventions, Customs, and Religions.
- II. The History of the Early Contact between America and the Old World.

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WILCOX, DR. EMMA D., 20 West 104th St., New York.
WINSHIP, GEORGE PARKER, 357 Benefit St. Providence, R. I.
WYCZOLKOWSKA, DR. ANNA, 129 West 96th St.
YOUNG, MRS. REGINALD, 253 Broadway, Room 712, New York.

DAILY SESSIONS.

The Commission of Organization met in the library of the American Museum of Natural History, Monday morning, October 20th, at 10 A. M., when a list of officers was made to form the permanent bureau of the Congress.

At 12 the Congress assembled in general session in the library. Morris K. Jesup, LL.D., President of the Commission of Organization, in the chair. Mr. Jesup, after calling the meeting to order, made the following address of welcome :

GENTLEMEN :

I regard this gathering as most important to the cause of research and science, and we are honored by your presence.

Your Association, so long honored abroad, and wherever it is known, has been induced to recognize what we have done in this country, in the great world, brought now so closely together by means of electricity and transportation, so that now even the remotest parts of it are being touched and quickened by the genius and courage of the explorer.

While our friends in Europe have for a long time been alive to the importance of scientific exploration, of late years, we, on this side, have not been idle in the great field of discovery ; and you are here to-day to see and learn of our doings. We shall learn much from you, we know, and, perhaps, you may learn something from us. There is stored in the halls of this Museum material, gathered from all parts of the American continent, bearing on the prehistoric life of man. It is for you to glean the results by their study and examination, and from your councils to give to the world the true meaning of discovery and research. No more interesting study can occupy the mind of man of the present day, than to know for a certainty how this great land was peopled, and the gradual advancement of the human race, from the far back up to the present, in religion, art and civilization. We shall watch your proceedings with great interest.

I congratulate this Museum that its position and influence have been dignified by your accepting their invitation to assemble at this time within its walls. You have come from all parts of Europe and America to testify, at least, that we have something worthy to engage your attention, and I trust that you will not be disappointed.

We are a new nation in science. It has taken years to build up its position in the world in trade and commerce, and to demonstrate to mankind that liberty and freedom can accomplish success.

And now we are turning our attention to this great subject " Science," which, after all, is the basis of all true greatness when it attempts to demonstrate God's gifts to His children, that we may learn of Him as the true Creator and Giver of all things.

On behalf of the American Museum of Natural History, and as its President, I welcome you here. We offer you all we possess. Our Museum is less than a quarter of a century old, but I hope that you will find your visit to us pleasant and profitable, and that the results of your proceedings will become a blessing to mankind. You are our guests, and I pray you will make yourselves at home, and do and act as though what we have is yours.

At the conclusion of Mr. Jesup's address, Prof. Leon Lejeal, of the College of France, Paris, the official delegate of the French Government, presented, to the Congress, the powers trans-

mitted by the Paris Congress of 1900, authorizing the assembling of the Congress in New York in 1902. Marshall H. Saville, General Secretary of the commission of organization, made the following remarks :

At the request of Mr. Jesup and the Duke of Loubat, who were entrusted by the Paris Congress to organize this one, a Commission of Organization was formed to convoke Americanists to join this the Thirteenth Session. It gives me great pleasure to state that 219 Americanists of 19 nationalities have answered the call. The following countries are officially represented by delegates at this meeting: Argentine Republic, Canada, Costa Rica, France, Germany, Great Britain, Guatemala, Honduras, Italy, Mexico, Netherlands, Paraguay, Sweden and Uruguay.

Mr. Saville then presented to the Congress the report of the Commission of Organization on the permanent bureau of the Congress.

President.

MORRIS K. JESUP, President American Museum of Natural History.

Honorary President.

THE DUKE OF LOUBAT, Correspondent of the Institute of France (Academy of Inscriptions and Belles Lettres).

Vice-Presidents.

For the Argentine Republic—JUAN B. AMBROSETTI, Museo Nacional.

For Mexico—ALFREDO CHAVERO.

For France—LEON LEJEAL, College of France.

For Germany—KARL VON DEN STEINEN, University of Berlin.

For Sweden—HJALMAR STOLPE, Royal Ethnographical Museum.

For the United States—F. W. PUTNAM, American Museum of Natural History.

General Secretary.

M. H. SAVILLE, American Museum of Natural History.

Treasurer.

HARLAN I. SMITH, American Museum of Natural History.

COUNCIL.

LEOPOLD BATRES, Mexican Government.

FRANCISCO BELMAR, State of Oaxaca, Mexico.

JOHN H. BILES, University of Glasgow, Scotland.

WILLIAM P. BLAKE, Territory of Arizona.

FRANZ BOAS, Columbia University.

E. G. BOURNE, Yale University.

DAVID BOYLE, Government of Ontario.

CHARLES P. BOWDITCH, American Antiquarian Society.

- GIOVANNI BRANCHI, Italian Government.
 H. C. BUMPUS, American Museum of Natural History.
 SYDNEY H. CARNEY, JR., New York Historical Society.
 A. F. CHAMBERLAIN, Clark University.
 T. F. CRANE, Cornell University.
 ALONZO M. CRIADO, Government of Paraguay.
 STEWART CULIN, University of Pennsylvania, American Philosophical Society, Numismatic and Antiquarian Society of Philadelphia.
 GEORGE A. DORSEY, Field Columbian University.
 G. T. EMMONS, U. S. Navy.
 HENRI PITTIER DE FABREGA, Instituto Physico-Geografico of Costa Rica.
 LIVINGSTON FARRAND, New York Academy of Sciences.
 ALONZO FERNANDEZ, State of Mexico, Mexico.
 JUAN F. FERRAZ, Costa Rica.
 J. WALTER FEWKES, American Association for the Advancement of Science.
 ALICE C. FLETCHER, Peabody Museum, Harvard University.
 GEORGE P. GARRISON, Texas State Historical Association.
 D. C. GILMAN, Johns Hopkins University and Carnegie Institution.
 CHARLES S. GLEED, Kansas State Historical Society.
 STANSBURY HAGAR, Brooklyn Institute of Arts and Sciences.
 C. V. HARTMAN, Swedish Anthropological Society.
 HENRY W. HAYNES, American Academy of Arts and Sciences and Massachusetts Historical Society.
 LUIS A. HERRERA, Government of Uruguay.
 F. W. HEDGE, Smithsonian Institution.
 LEVI HOLBROOK, American Geographical Society.
 W. J. HOLLAND, Carnegie Museum.
 W. H. HOLMES, U. S. National Museum.
 WALTER HOUGH, Anthropological Society of Washington.
 A. L. KROEBER, University of California.
 NICOLAS LEON, Mexican Government.
 OTIS T. MASON, Columbia University.
 A. P. MAUDSLAY, Anthropological Institute of Great Britain and Ireland.
 MRS. VIRGINIA MCCLURG, Colorado Cliff Dwellings Association.
 G. G. MACCURDY, Anthropological Society of Paris.
 W. J. MCGEE, National Geographic Society.
 J. D. MCGUIRE, American Anthropological Association.
 MARTIN GARCIA MEROU, Argentine Government.
 W. C. MILLS, Ohio State Archaeological and Historical Society.
 CLARENCE B. MOORE, Academy of Natural Sciences of Philadelphia.
 EDWARD S. MORSE, National Academy of Sciences.
 W. W. NEWELL, American Folk-Lore Society.
 ZELIA NETTALL, University of California.
 A. S. PACKARD, Brown University.
 L. C. VAN PASHUYEN, Netherlands Government.
 N. BOLET PERAZA, Government of Honduras.
 H. ST. CLAIR PUTNAM, Davenport Academy of Science.
 WILLIAM B. SCOTT, Princeton University.

EDUARD SELER, German Government.
FREDERICK STARR, University of Chicago.
J. J. STEVENSON, New York University.
MAX UHLE, University of California.
JOHN WILLIAMS WHITE, Archæological Institute of America.
JAS. GRANT WILSON, American Ethnological Society.
TALCOTT WILLIAMS, American Historical Association.
JULIO YELA, Government of Guatemala.

The Congress reassembled at 2 P.M. for the reading of papers. It was called to order by the Honorary President, the Duke of Loubat, who gave the following address:

"Ladies and Gentlemen: When these International Congresses were organized, in 1875, it was understood that they were to be held only in Europe. At Stockholm, in 1894, however, a special session was granted to Mexico for 1895, although at the same time the Netherlands were chosen as the place of meeting for the regular Congress of 1896. As this last Congress was never convened, the Société des Americanistes of Paris took the matter up, and a regular one was held in Paris in 1900, at which some new regulations were adopted. One of the two most important of these was that thereafter the Congresses should be held alternately in America and in Europe, but could not be held twice consecutively in the same country. Thus the next Congress, two years hence, will be held in Europe; and the following, four years hence, in either North or South America, but not in the United States. The other important regulation was that six vice-presidents, and no more, should be elected for each Congress, namely, two from the country where the Congress was being held, and four from among the official foreign delegates. Accordingly, you have elected as vice-presidents gentlemen representing France, Germany, Mexico, and Sweden, as Congresses have already assembled in Paris, Berlin, Mexico, and Stockholm; the two remaining ones you have divided between the United States and the Argentine Republic.

It is customary, at the opening of each session, for the Chair to pronounce a eulogy on the distinguished Americanists who have departed this life since the last meeting took place, and also to give a summary of what has been done in our science since the last Congress was held. This will be done by the gentlemen who will, in turn, occupy the chair.

Now, ladies and gentlemen, as I have had so many Mexican Codices reproduced, I have been asked to say a few words concerning them. I expected to do this on Saturday next, so I am not ready, and must crave your indulgence if I only give you a few notes that I have hastily written out.

As you all know, there are several kinds of Mexican Codices, namely:

Religious Codices.—The Vaticanus No. 3773, which has been in the Vatican Library for over three hundred and fifty years; the Borgia, of the Propaganda Fide; the Borbonicus, of the Chamber of Deputies at Paris, which formerly belonged to the Escorial in Spain, etc.

Historical Codices.—The annals of Chimalpahin.

Tributary Codices (Tax-Rolls).—The Humboldt Codices of the Royal Library of Berlin.

Peregrination Codices.—The Porfirio Diaz of the Museo Nacional of the City of Mexico.

Title Deeds, which are numerous, etc.

As you all remember, Itzcohuatl, the fourth king of Mexico (1427-40), wishing to annihilate everything relating to the histories of the ancient nations which had inhabited the Valley of Mexico previous to the arrival of the Aztecs, ordered their annals to be burned, and thus were destroyed, among others, those of the Acolhuas and of the Tepacananacs.

You all know that on the thirty-first day of December, 1520, the Tlaxcallan allies of Cortes set fire to several palaces of Tetzcoco, and among others, to the superb one built by Necahuilpilli, the fifth king of Tetzcoco, who died four years before the arrival of the Spaniards, and that in this palace were the archives of the kingdom, and many other important documents which were thus destroyed.

You also remember that the Codices were entrusted to the care of the priesthood, and were kept by them in the temples, and that when the Indians took a city in time of war they immediately burned the temples and the many archives contained therein.

At the inauguration of the Great Temple of the City of Mexico, in 1487, under Ahuizotl, the eighth king of Mexico, 80,400 prisoners of war were sacrificed, according to Brasseur de Bourbourg, although the Codex Telleriano-Remensis states the number to have been only 20,000.

You will now understand, ladies and gentlemen, that civilization demanded the abolition of these human sacrifices. This was the reason why the friars destroyed all the idols and all the religious Codices they could lay their hands on, but you must also remember that they very carefully collected everything relating to the history, the customs, the religions, etc., of the ancient inhabitants of that part of America, and that all that we know about these people is due to the writings of these very monks, and especially to Father Sahagun, the learned Franciscan, whose "General History of New Spain" ought to be translated into English.

I now call to the chair Professor F. W. Putnam, Vice-President for the United States.

Prof. F. W. Putnam, of Harvard University and the American Museum of Natural History, on taking the chair, thanked the Congress for the honor it had conferred upon him in making him the vice-president to represent the United States in so distinguished a body.

General Secretary Marshall H. Saville laid before the Congress several invitations of a social nature.

Vice-President Putnam then made the following remarks:

The honored gentleman, to whom the Congress owes so much and who has just resigned the chair to me, has stated that eulogies would be pronounced upon some of our distinguished members who have died since the last meeting of the Congress. I am sure that the pronouncing of eulogies upon these men is entirely beyond what I contemplated doing this afternoon. Not only do we all miss the genial presence of Mr. Wilson from this meeting, but we are deeply sensible that his loss is a great one to archaeology in America. His geniality, his love of science, his indefatigable work have endeared him to us all. We all regret that he has passed on, and will no more be with us.

Of the loss we have sustained in the recent death of Major J. W. Powell you are all aware. You know of the great work he has done. You know of his many explorations in the West, and of his courage in going through the Cañon of the Colorado—which first brought him into note before this country and the world. You know that to him is due the founding of the Bureau of American Ethnology, and how hard he has worked during all these years to make that Bureau a true exponent of the anthropol-

ogy of the country. You know full well how that Bureau has spread out and widened from year to year, until now it covers, I may say, almost all America in its work. Unfortunately at this moment the Bureau is in a transitional state, and it remains to be seen whether in the next years it shall become a monument to Major Powell's memory, or whether we shall simply cast it as withered leaves upon his grave.

My predecessor has also called attention to the fact that it is necessary, or customary, for the Vice-Presidents of the various countries to give some account of the activities in anthropology, particularly of those relating to archaeology in the early history of America, that have taken place during the two years that have passed since the preceding Congress. I know that every one of my fellow Vice-Presidents will be confronted with the same difficulty that I am. To undertake, in the course of a few minutes, to speak of all the activities in any one country is impossible. Anthropology has made such vast strides within the last decade—so many new institutions have arisen, so many new men and women have come into the field and are carrying on its work—that it is impossible for us to keep the run of what is going on; but I know that in my own country these activities are very vast.

I shall allude to a few of them; but, in order to cover the work of more institutions than I could possibly allude to this afternoon, I shall ask two or three of the gentlemen here, who are specially connected with various institutions, to say something relating to the work of those institutions. In that way, I think, you will get a better idea of our activities in this country than if I should attempt to give a résumé of it all. I will ask Professor McGee, who has been identified so long with the Bureau of American Ethnology, to tell us what has been going on in the Bureau this last two years.

Dr. W. J. McGee, Ethnologist in charge of the Bureau of American Ethnology and Vice-President of (and Representative from) the National Geographic Society, in response to the call of the Chair, said:

Mr. President, Ladies and Gentlemen.—I appreciate the honor of this opportunity to open the formal proceedings of this Congress by a brief account of scientific work now in progress in the Bureau of American Ethnology. Time will permit me to do no

more than call attention to a few of the lines of this work, and I shall select those which happen to be most prominent in my mind at the present moment, asking you to remember that they are merely representative.

Some of the recent exploratory work has been directed toward inquiries concerning the industries of the aborigines. During the last few months Dr. J. Walter Fewkes explored Porto Rico, partly for the purpose of making archeologic researches and collections, partly with the view of tracing the cultural connections between the aborigines of North America and those of the Antilles and South America. He gave special attention to resources utilized first by the aborigines and afterward by Caucasian settlers, and which promise to become of increasing service to white men—for we have become convinced that the white man may profit by the experience of the red man in respect to various natural resources and modes of living. He found that certain of the native fruits, food-plants, and grains on which the aborigines subsisted were of such utility that they were adopted by Spanish and other Caucasian settlers, and are still used. He found also that the house types and modes of architecture developed by the aborigines were well adapted to local conditions, and have survived four centuries of Caucasian occupation, despite the tendency of the European (especially the Anglo-Saxon) to build after the plans of his forefathers even in an entirely different environment. Dr. Fewkes' report has just gone to press as a Bulletin of the Bureau of American Ethnology, and it can hardly be doubted that the results of his researches will prove useful to practical students of architecture and agriculture, as well as to scientific specialists interested in the relics of a passing race.

Related researches have been pursued in the arid regions of the United States, especially by Dr. Frank Russell, formerly, and now again, connected with Harvard University; he spent a year among the Pima and neighboring Indians of Arizona, engaged in study of their industries, esthetic devices, styles of habitation, and food sources, as well as of the prehistoric relics of their region. In this connection I beg to recall attention to a fact that has seemed to me of great significance: In the zone traversed by the Southern Pacific Railway, from eastern New Mexico to California, there is to-day a white population of perhaps twenty thousand, with an Indian population of half as many more, or some thirty thousand

in all, while in the time of Coronado the population of the same zone must have approached a hundred thousand, and before the beginning of the Apache wars (so far as may be judged from prehistoric relics) the population must have been two or three times greater. How did these aborigines support themselves? How did they so adjust themselves to an arid environment with its meager vegetation as to maintain life? Did they utilize resources in ways by which modern men may profit? These are among the questions to which we are of late giving attention; and Dr. Russell's monograph, which is nearly completed, will no doubt aid us in finding answers to them.

Several lines of work conducted in the Bureau relate to the symbolism which is so prominent in aboriginal life in connection with social organization, beliefs, and various customs. Certain of the symbols are properly classed as heraldic; these have been studied by Mr. James Mooney among the Kiowa and neighboring Indians of the plains. Among these tribes there existed an elaborate system of heraldic devices, partly religious in meaning, but affecting social organization in a definite, if not dominant, way. In the Kiowa tribe the heraldic devices are "dreamed" (or supposed to be revealed in visions), much as totems are originated among various primitive peoples, and the devices are emblazoned on shields as crests which are adopted by others, who are thereby brought into a sort of brotherhood, or fellowship, of a type characteristic of primitive socialry. The details of Mr. Mooney's work are too many for recounting; it must suffice to say that his preliminary report demonstrates the existence among the southern plains tribes of heraldic system so rich, so elaborate, so well developed, as to throw much light on the heraldry of our own ancestors in Europe. His researches indicate that the European and American systems were not produced from the same parent stock, but were developed along parallel (or rather along convergent) lines, and that the American system represents a somewhat earlier stage than that of Europe, so that our aboriginal heraldry will serve to explain previously obscure steps in the development of the older system.

Although primarily connected with Harvard University, Miss Alice C. Fletcher has, during the last year, conducted notable researches in the interests of the Bureau; these related to the peculiarly impressive ceremonies of the Pawnee Indians, which

are rapidly passing—indeed, some of Miss Fletcher's earlier informants have already carried to the grave all vestiges of these ceremonies which escaped her record. She, with Dr. George A. Dorsey, is seizing the last opportunities to preserve the Pawnee ceremonies and the significant beliefs with which they are connected. Just as Mr. Mooney's work reveals the early stages in the development of heraldry, so the studies of Pawnee ceremonies are revealing essential stages in the development of the drama, poesy, and music. By reason of their bearing on developmental stages no less than because of their direct picturing of ceremonial life, Miss Fletcher's researches are of profound interest; in my estimation she is raising a unique monument to the memory of our aborigines, and her monograph, just sent to press, is destined to form one of America's noblest contributions to anthropology.

In the current researches concerning aboriginal mythology in which several collaborators are engaged, the comparative method is employed. Thus, Mr. J. N. B. Hewitt has, during the last two years, made a comparative study of the myths of the Iroquoian tribes viewing each in its relation to all the rest in such manner as to ascertain what features have been interchanged and what are independent—to ascertain, in short, what are the conditions and causes of genesis and development among these myths. While it is impracticable to give here the full results of Mr. Hewitt's work, it may be observed that the comparative method in the study of mythology promises to be of no less value to ethnology than was the same method to anatomy; science gained new impetus when comparative anatomy formed the foundation for biology, and, so far as we can judge, an even greater impetus will be gained as the comparative method enlarges our views and enriches our knowledge of mythology and belief.

The work of the Bureau in philology has been continued with unabated zeal, and several collaborators have been engaged, during the past year, in collecting vocabularies and texts from various rapidly disappearing tribes. Publication of the linguistic material has lagged somewhat, since it seemed best to concentrate efforts on collection, leaving diffusion to a later date when comparative studies may be based on the assemblage. Dr. Albert S. Gatschet, Mr. Hewitt, and Mr. John R. Swanton have been especially active in collecting linguistic data, and other collaborators have co-operated; and it is a pleasure to take this opportunity to announce

the important work by Dr. Franz Boas, of this Museum and Columbia University, in supervising the collection of vocabularies, texts, and grammatic material, and in so arranging this material as to afford a general view of the linguistic characteristics of the American aborigines. Dr. Boas has made good progress in the preparation of chapters for what may be called a hand-book of our native languages, in which he sets forth the principal lexic and morphologic characters of each.

Time warns me that I must be done. I beg to repeat that the few points I have had the pleasure of presenting to you are but representative of the far more numerous lines of work in which the Bureau of American Ethnology is engaged. I thank you, Mr. President, for the opportunity you have given me.

VICE-PRESIDENT PUTNAM: *Ladies and Gentlemen.*—I am sure that we are very grateful to Professor McGee for this account of much that has been done by the Bureau. I thank him for his representation, and hope that he will soon have an opportunity to read his paper before the Congress.

Referring to our activities, you must have noticed that many of the universities and colleges, within the past few years, have been laying foundations by establishing chairs of archaeology or of some one department of anthropology; that we now have in many of the universities professors and instructors giving regular instruction. That is a great gain which we have made during the past decade. One of the latest of the universities to do anything in the line of anthropology is the University of California. There are, as yet, only an instructor and an assistant appointed on the list of instructors, but the university, through the generosity of Mrs. Phoebe Hearst, is bringing together immense museum collections from all parts of the world. You are familiar particularly with the work of Reisner in Egypt, you know of Dr. Uhle's investigations in Peru, and you know of much of the work among the Indian tribes of California. You have, perhaps, heard of some of the researches which are going on in the shell-heaps and gravel-pits in the State of California. You have also heard of the researches which have been carried on by Dr. A. L. Kroeber, through the munificence of Mrs. Hearst, for the benefit of the University of California. This University will soon have a vast museum, with a corps of professors, instructors and assistants, to carry on the work on the western coast, as it is being done here in the east.

I call upon Dr. W. J. Holland, the director of one of the younger museums (that is, younger in the sense that it has only recently done anything in anthropology) to briefly outline the work of the Carnegie Institute of Pittsburg.

W. J. Holland, of the Carnegie Museum, in responding to the call of the Chair, said:

Mr. President, Ladies and Gentlemen.—The Carnegie Museum is in its infancy, but it is a strong and vigorous infancy. It has already outgrown its swaddling clothes and the manger in which it has been lying. It is now waiting patiently for a decision from the Supreme Court of Pennsylvania, a decision which will undoubtedly allow the manger to be transformed into a bed. There are four or five millions of dollars, thanks to the generosity of the founder, at the service of the Museum for enlarged buildings, but the money cannot be expended until the ground is obtained upon which to put these buildings, and a lawsuit now pending prevents this. Meanwhile we are at work gathering up collections which are to be placed in the halls of the future edifice. We are hiring storerooms. We are, to a certain extent, in the "cold storage" business. Good storage is cold, and should be kept cold for the preservation of collections which are made. Like some very religious people, we are afraid of fire.

Our archaeological work has largely been thus far confined to the valleys of the Monongahela and the Allegheny, which unite at Pittsburg to form the Ohio. We here find mounds, shell-heaps, sites of ancient villages, and sculptured rocks, and we are attempting to map out the location of these memorials of the primitive peoples who once inhabited these portions of western Pennsylvania, and to preserve, so far as possible, the scanty records which relate to the aboriginal inhabitants.

We are also receiving from other places a great deal of interesting material. We are under obligations to the Honorary President of the present meeting, the Duke of Loubat, for notable gifts, and we are under obligations to Mr. Carnegie, the founder, for grants of money which have enabled us to purchase things that are desirable for exhibition in order to illustrate the archaeology of the country at large. We have recently secured considerable sums of money to aid the work of exploration in Egypt, and we have received in return from the Egypt Exploration Fund some

very interesting collections. From Colombia, Mexico, India, Japan, and indeed from all parts of the world we have obtained material, which we are classifying. Ultimately we hope to have a large and representative museum in which the student of archaeology will be able to work with satisfaction. We wish to make our work thorough, scholarly, and complete.

Referring again to our immediate neighborhood, I may say that there is not very much of surpassing archaeological interest left for us there. The forefathers shot the Indians, or poisoned them with bad whiskey. They were poor people, who did not have much in the way of goods and chattels, and all that remains of them are the few tools and stone implements which they carried, and which we find in their graves.

I have the honor, sir, on behalf of the Carnegie Museum, to extend to this Congress an invitation to visit the institution a week from the coming Wednesday. I understand that you will be with us at that time. We have provided for the accommodation of the delegates. We will give you your breakfast, your luncheon, and your dinner. We will speed you as parting guests to "Fort Ancient," somewhere in the "howling wilderness" of southern Ohio, to which point Professor Putnam will probably conduct you. When you come to visit us you shall see for yourselves what we are doing in our museum, the youngest institution of its kind in America. The great works of the United States Steel Corporation, through the courtesy of its president, will be open for inspection, and a train will be provided to take you there and bring you back to dinner.

VICE-PRESIDENT PUTNAM: We thank Dr. Holland for the information he has given us, and for the cordial invitation to the delegates to meet at Pittsburg and make that one of the stopping-places on the excursion which will follow the meeting of the Congress.

There is another institution in the great State of Pennsylvania from which we should like to hear something (an institution which was started, I think, by one of our members, Dr. Pepper), an institution which has grown up as part and parcel of the University of Pennsylvania. Fortunately for us, the director of the Archaeological Museum of the University of Pennsylvania has been excused from military duty, where he has been among the

coal mines, that he might be with us to-day, and I will ask Mr. Culin if he has been out of the saddle long enough to say a few words about the activities of the Archaeological Museum of Pennsylvania.

Mr. Stewart Culin, delegate from the University of Pennsylvania, American Philosophical Society, and the Numismatic and Antiquarian Society of Philadelphia, took the floor in response to the call of the Chair. He said:

Mr. President, Ladies and Gentlemen.—I will only say a few words in reference to the collections made by the University during the past two years. Through the munificence of one of our citizens a considerable sum has been placed at my disposal, and by the aid of several friends I have made a number of expeditions, covering a wide range of territory, and visiting a large number of existing Indian tepees. In general, my effort has been to obtain material of all sorts; and as a result of this work, aided by funds which have been placed at my disposal, I have brought together a vast mass of material; but, more than that, I have had an opportunity of directly studying and investigating certain questions with reference to the relations between the peoples of this continent and those of eastern Asia; and, as the outcome of this work, I would like to state that from the position which I formerly occupied (a position taken by my friend, Mr. Cushing) that there was no communication between the the two continents, I now withdraw. I now feel very sure that some time in the remote past there have been most intimate relations, and, furthermore, that the migrations may have been, not from Asia to America, but from our American continent to Asia and to the southern islands in the Pacific. Furthermore, I believe that the material which has been brought together will permit a demonstration to be made to you of this migration in the long past, and the establishment on the American continent, not as the source of an arid and sterile culture, as it is sometimes characterized, but of a living, vital force, which has gone out into the Old World, and has affected the cultures of historic peoples with whom we are acquainted.

On next Monday, I understand, the Congress will visit Philadelphia. The University of Pennsylvania, the American Philosophical Society, the Historical Society of Pennsylvania, and

the other institutions in Philadelphia extend a very cordial invitation to the members and officers of the Congress to visit them at that time.

VICE-PRESIDENT PUTNAM: We are grateful for the invitation to visit Philadelphia, where we shall see this wonderful collection which Mr. Culin has brought together. There is a collection which was made for the World's Fair, as we like to call our Columbian Exposition held in Chicago in 1893; and in connection with that collection I have the pleasure of calling upon the curator of the Anthropological Department of the Field Columbian Museum, of Chicago, the outcome of the "White City," or the World's Columbian Exposition, Dr. George A. Dorsey, who will tell us something about the work of the Field Columbian Museum within the past year or two.

DR. GEORGE A. DORSEY, of the Field Columbian Museum, said:

Mr. President, Ladies and Gentlemen.—It is a very great pleasure and privilege to say a word to you about the Field Columbian Museum, which I hope you will visit within a very short time. Professor Putnam has already told you that the museum in Chicago is the direct outgrowth of the World's Columbian Exposition. The Department of Anthropology forms one of its four departments; and as we are all anthropologists, I am sure that you will be glad to hear that this department comprises about one-half of the Museum as it exists to-day. Thanks to Professor Putnam's energies during the early part of the World's Fair at Chicago, it was then a pretty good-sized department. We had collections which any museum might have been glad to own—all of them collected through Professor Putnam for the Department of Anthropology. These collections formed the nucleus of the Museum, and embraced a number of collections from the Northwest Coast region, collected under the direction of Dr. Franz Boas; several collections from the Plains Indians; two or three collections from the Eskimo; and several large collections from certain tribes in the interior of Peru and Brazil, and the Grand Chaco region. There were also several important collections in archaeology, the most famous of which was made by Mr. Moorehead from mounds in Ohio, and this collection, in connection with the material gathered by Professor Putnam, forms one of the most important collections ever taken from a

mound or group of mounds in the United States. There was also, at this beginning of the Museum, a rather extensive collection of archaeological material from South America, chiefly from the west coast, and very largely from Peru, although Chili, Bolivia and Ecuador were represented. Immediately at the close of the Fair several collections were purchased by the Trustees. In nearly every case these collections had been placed on exhibit in the Anthropological Building at the World's Fair. Chief among these collections was one from Colombia, S. A., comprising a large number of gold ornaments and a large and beautiful collection from Cuzco.

From 1894 to 1896 or 1897 the Museum was engaged in "taking stock"—in placing upon exhibition the material which had been hastily assembled in one of the buildings at the World's Fair. At that time, before I was placed in charge, it was decided by the Trustees that they should devote all their activities to the field of North America. This action seemed advisable to the Trustees for several reasons, two being especially prominent. One reason was that the field of North America would, in a comparatively short time, be no longer suitable for museum exploration; and the other reason was that Chicago, being pretty close to the center of the United States, was in such a position that it was the duty of the Museum to establish such a department. The consequence of this has been that since that time, and since the opening of the Museum, the energies of the department have been especially devoted to the strengthening of the North American collections. The Eskimo collections from the northwest coast have been strengthened. California, at the beginning, was scarcely at all represented. Since then large collections have been added from California. While the Plains region was little represented, yet much work has been done in that region among the Cheyenne, Arapahoe, Osage, Pawnee and other tribes, and, on the whole, with important results.

A great deal of work has also been done in the Southwest, through funds generously furnished by one of Chicago's citizens. It was decided to select a single tribe, and in that tribe a single village, and represent that tribe as fully as possible. Accordingly, one of seven Hopi villages was selected, and to show you how much we have done in that village, I may say that a sum exceeding sixteen thousand dollars has been expended in the last four

years upon the Hopi. Of course, this includes archaeological exploration in near-by ruins.

In connection with all this work of acquiring specimens, the museum has undertaken to carry on research work as rapidly as possible. Mr. Voth has done considerable work in this line among the Hopi, Dr. Hudson similar work in California, my own efforts have been directed toward the Blackfoot, Arapahoe and Pawnee, and Mr. Simms, the assistant curator, has carried on investigations among the Crow, chiefly as to their symbolism, and especially as relating to the heraldry problem. I may mention a single incident in connection with the scope of our Plains collections. Mr. Simms has collected within the last twelve months, in one tribe alone, fifty-six original buffalo-shields, and has obtained in nearly every case a full description of the heraldry.

In connection with the work of providing for archaeological and ethnological collections, the Museum has taken such pains as it could to enlarge the collection of osteological material. This collection was unusually large at the beginning, and since that time several collections have been added. Perhaps the most important is one of four hundred fairly-complete skeletons from prehistoric Hopi ruins.

I hope that I shall have the privilege of taking many of you through our halls sometime during the coming week.

VICE-PRESIDENT PUTNAM: Dr. Dorsey has given you some faint idea of the immense collections which you will see next week in the Museum in Chicago. I know you will be pleased with what has been done there, and I am gratified that he has continued the work which I began at the time of the Exposition.

When I was a child my parents carried me into a museum, and as I grew older and older, I used to stand before the cases and wonder about the strange things from Asia and Africa that I saw there. That museum was situated in Salem, Mass., and it was known as the East India Marine Society. It had a large number of specimens which were collected from a hundred to a hundred and fifty years ago, and which are of the utmost value to-day. That museum after a while changed its name, and became, in connection with a Natural History Department, the Peabody Academy of Sciences. We have here my successor as director of the museum, Professor Edward S. Morse, who will tell us what has been done

there in late years; and, I am sure, he will astonish you with the statement which I ask him to make.

PROF. EDWARD S. MORSE, Director of the Peabody Academy of Science and Delegate of the National Academy of Sciences, in response to the call of the Chair, said:

Mr. President, Ladies and Gentlemen.—There is very little to tell you regarding that museum so far as concerns actual work done. I will state, first, that we have done all we could to collect every prehistoric relic in the county. Our foundation is very small. As the name implies, we are indebted to the late Mr. George Peabody for an endowment. The sum was not so much as this museum expended last year for its coal bill. What that sum will be next year I dare not think. But I wish to call your attention to the fact that we have the oldest museum in the United States—one hundred and four years old to-day. When you realize that that museum was brought together by sea-captains a hundred years ago in that little town of Salem, and when you realize that no man could be a member of that society unless he was a sea-captain or had gone around Cape Horn or the Cape of Good Hope (to sail on the Atlantic or Mediterranean “counted nothing” in the sailors’ words), and, furthermore, when you realize that in that town there were over two hundred members in that society, you can get some conception of the education, the culture, the interest in science, of the common people of that day. I wonder if there is a town on our coast to-day where the sea-captains would bring home with every voyage large collections of ethnographic and zoölogical material in combination—which were called curios.

We have a modest, little, instructive museum for the people of that immediate vicinity. We do not undertake to rival, or to compete in any way with the museum here, or with the museums in Chicago, Philadelphia, and Pittsburg; but we are content to follow Professor Goode’s advice when he said that a good museum consisted of a collection of well-written labels with the specimens. In our museum any school-boy can obtain all the information that is known about a given specimen, for there are labels with numbers, and on presenting a number at the desk of the librarian he gets a book on that subject; so we exert all our energies and all our efforts in making it the sweetest, brightest little museum that can possibly be made, and I am sure that you will find it an

interesting fact that at that time the common people made up the museum, while now we are indebted to wealth.

I have strengthened those departments that needed strengthening. I found that there was hardly anything from Japan, and so I brought together a collection of Japanese ethnological objects—a collection that I think is larger than any in the world, and I think that when our catalogue is published we shall show more objects of various kinds belonging to Japan that will be found in any other museum in the world. If you come to Boston I shall have the pleasure of showing you a collection of Japanese pottery larger than all the collections in the world put together. We have all that you have, plus five or six thousand more.

Carlyle says it is more profitable to reckon up our defects than to boast of our achievements; but there is a certain pride in our case, in that it is only twenty years since we began this work.

PROF. FREDERICK STARR, of the University of Chicago and delegate of the Davenport Academy of Sciences, in response to the call of the Chair, took the floor. He said :

Mr. President, Ladies and Gentlemen.—So far as the work connected with the University of Chicago is concerned I shall say nothing. In a brief paper to be presented in connection with this Congress I shall speak in regard to a certain phase of that work. But I do wish to say a word in regard to the Davenport Academy of Sciences. I am one of three delegates from that Academy—which shows that the Davenport Academy is still alive. I think I am the only delegate present this afternoon. If it were not so I should be glad to resign in favor of another.

So far as the Academy is concerned, all of you who are American archaeologists know the work that has been done in the past by that institution. You know of its work in 1875 in exploring mounds in the central part of our country. That work among the mounds was active and vigorous. You know that there are many interesting relics in the Davenport Academy of Sciences that were found in connection with those explorations. It is not my purpose to go into a discussion of certain famous examples of these relics secured by the Davenport Academy; I merely wish to say that the Academy stands to-day at the threshold of a work which I believe will be more interesting than any work that it has ever undertaken.

I wish it were possible for us to officially invite you to go to Davenport; I can assure any of you who are interested that if you have the time and opportunity you may well go to Davenport and you will receive a hearty welcome. I hope that you may not forget the little institution in Davenport, the work which it is still doing, and its future outlook, which is more encouraging and more brilliant than ever before.

VICE-PRESIDENT PUTNAM: I wish there were present some other delegate from the Peabody Museum to tell you about what has been done there, but I am afraid that it falls to me to do so. Our work there, as you all know, is largely a development of an archaeological and ethnological collection illustrating those departments in America. We have made it, so far as we can, strictly an American Museum; but, in order to study these objects from America, we must have objects from other parts of the world, for if archaeology and ethnology are not comparative they are nothing at all. So we must compare what we find here with things from other parts of the earth. Our expeditions, however, have always been devoted to work in America. We have explored a great many mounds, a great many shell-heaps, a great many village sites, a great many old burial-places. I presume that more work of that character has been done in connection with that one little museum than in any other section of the country. I think I can say that without boasting. It is only to give you an idea of the collection you will see there.

In connection with that, we have worked for a number of years in Central America, and we have a very important and very interesting collection illustrative of the monuments, the sculptures and the architecture of Central America. In all that relates to Copan, particularly, I believe you will find in the museum what you can see nowhere else in the world. I can only say to you to come and see it and study our activities on the spot.

We have endeavored to publish a little. We have published a few memoirs and a few papers showing what we are doing. A set of those publications are in my office in this building. Perhaps it will be a little puzzling to you why I speak of the Peabody Museum in Harvard and of the American Museum of Natural History in New York, in the position of an officer in each place; and I would state that I pass half of my time in Cambridge, at

Harvard, and the other half in New York, at this Museum—two weeks in Harvard and two weeks in New York; and that is how it comes about that I speak of these two institutions. Among our recent publications at the Peabody Museum is the Codex which was discovered by Mrs. Nuttall, and which was reproduced by the Peabody Museum. You all have knowledge of the Codex Nuttall, and that is perhaps one work that will interest you more than any other; but I will mention that we are now publishing a number of quarto memoirs. There has been one published so far, and we have in type another large memoir, with some forty or fifty plates, upon sculptures and hieroglyphic carvings.

With this brief allusion to what is going on at Harvard, I wish to call your attention to what is and has been going on in the American Museum of Natural History. You will recall that it is hardly more than ten years since the Department of Anthropology has amounted to anything in this Museum. We had collections before then, but there was no scientific work attempted until within the last decade. During that time we have had contributions from many sources. A large number of New York's wealthy and liberal citizens have been interested in the work of the Museum, not only in the Department of Anthropology, but in all its other departments, as you will see as you go through its various halls. Among those who have helped us, I cannot refrain from mentioning a few names and indicating slightly what has been done by their assistance.

The late Mr. Henry Villard was our first contributor to work in South America. It was through his interest that Mr. Bandelier was employed to carry on researches in Peru, and we have a large collection by Mr. Bandelier—which was continued, after Mr. Villard's death, by money appropriated by the Trustees of the Museum. That collection of Peruvian objects has been largely added to by the purchase of several important collections with money obtained by the Trustees, who have given it as a matter of Museum funds. To Mr. Villard we are also indebted for the means for working among the Indians of Oregon, of which you will hear more through one of the papers to be read before the Congress.

To Mr. Huntington we are indebted for assistance to enable us to do work among the Indians of California, and since his

death that work has been continued by Mr. Archer M. Huntington and Mrs. Arabella Huntington.

Then Mrs. Jesup, following her noted husband's example, became interested in the Indians, and gave us the means to carry on investigations among the Arapahoe of the Plains.

Some years ago my friend, the Duke of Loubat, the Hon. W. C. Whitney and Mr. Jesup gave the first contribution to this Museum for the explorations of Honduras in connection with the Peabody Museum, and much of the material from Honduras was received through their assistance. To the Duke of Loubat we are also indebted for the first money for pursuing the study of the Trenton gravels by this Museum. The work had been carried on there for ten years previously under my direction. For the past ten years that work has been done for this Museum. We are, as you know, also indebted to the Duke of Loubat for much which we have been enabled to do in Mexico. For nearly all the results relating to Mexican archaeology this Museum is, in fact, indebted to the liberality and the interest of the Duke.

I must call attention to Dr. F. E. Hyde, a contributor year after year toward the examination of the archaeology of the Delaware Valley. To me it is a point of great interest to think that one gentleman here in New York should say: "Well, Mr Putnam, I don't know anything about what you are doing there, but I do know it will be interesting to carry on investigations as to whether there was an early man in Delaware or not; but how long do you think it will take to do that"? "Well, I don't know, Dr. Hyde. I only know that I have been digging there now a long time, and have had a man employed almost constantly for the last ten years, and I think it will continue as long as I live; but I should like to have this work go on, and it can if you are willing to pay \$1,000 or \$1,500 a year." Dr Hyde said: "Well, you can continue for a while and I hope you will find him." We have thus worked at this problem, and I shall have an abstract of a paper in which I shall call your attention to what we have done. But *there* is a gentleman who only sees a few stones and a few bones as the result of the expenditure of his money. He merely knows that there is a man turning over earth year after year with a trowel, in the hope that he may find something, and yet he is willing to give his money to carry on that research. I think that is a good example for a New York citizen to set.

Then we owe to his sons, Frederick E. and B. T. Babbitt Hyde, the means of carrying on our researches in the Southwest. All the explorations in Pueblo Bonito and other small pueblos of the Chaco Cañon have been paid for by these young men—two young men who started as students of mine at Harvard, and who, wishing to do something for their native city and for archaeological research, asked me what they could do. I said, "Explore Pueblo Bonito"; and so from that exploration, started several years ago, began their work, which we have carried on with their assistance. The work has extended through our Southwestern States and reached over into Mexico; and the salaries of two of my assistants are paid for by those gentlemen, as well as all the expense of the exploration, amounting to several thousand dollars every year. Some of the results of those explorations you will see when you visit the pueblo department on the floor below. On this floor, in the room assigned to the use of the ladies, you will see the library and other things that have been brought together by the liberality of the Messrs. Hyde. We are also indebted to Mr. F. E. Hyde, Jr., for the means of publishing that very beautiful and important book, Dr. Matthews' *Navajo Chant*, a large memoir, illustrated by many plates. We are also indebted to F. E. and B. T. B. Hyde for enabling us to keep Dr. Hrdlicka employed on his somatological work among the Indian tribes of the Southwest. Dr. Hrdlicka is in the field at the present time, studying some tribes in Mexico which he had not visited before.

We have extended our work somewhat outside of America, as you know, in this Museum; and it is our hope to have in time as thorough a representation as possible of the archaeology and ethnology of the world. You must remember that this building that you are in is only about one-fifth of the whole structure contemplated by this Museum, and we hope, in the course of a few years, to see as much space as this building itself now contains devoted to anthropology alone. We are trying to bring this about. The city is liberal. The city will provide the building. The citizens of New York, through the assistance of the Trustees, will provide the money; and I have no doubt that we shall have this great wing, extending from 77th Street to 81st Street (before, I trust, any of us are called to our fathers) filled with anthropological material.

We are indebted to Mr. Jacob H. Schiff for work in Africa and Asia. This work is under the direction of Dr. Boas. We have had the assistance of Mr. Arthur Curtiss James for our work in Japan, particularly among the Ainu. The Trustees have carried on several special explorations, and I have succeeded in interesting a good many of the citizens in our local archaeological researches. Here we have not done all that I hoped, but the work is going on, and we are trying to restore a picture of the past, so far as Indian life is concerned, in the immediate vicinity of New York, so that we can show what happened in New York before the whites came here and took possession.

Now I have to speak of one who, above all others, has helped this Museum on; who, above all others, has devoted his energy, time, and thought to the development of its various departments; a man who told you this morning that he was a business man, that he was interested in science, and that he loved to see science developed and carried on—our worthy President, Mr. Morris K. Jesup. To him the whole Museum is greatly indebted, and the Department of Anthropology especially so. He has helped us whenever there was an opportunity to do a little work and there was no money at hand to pay for exploration. He would say at first: "There is no money; we cannot do it." I would say: "It ought to be done, Mr. Jesup." "Well," he would say, "then I suppose you will have to do it, and I will pay for it." That is the way much has been accomplished.

Besides that, Mr. Jesup became interested in this department in the great question of the distribution of man over the continent. Where did man come from? How did man get on the American Continent? Did he come from Asia here, or did he spread from America into Asia? The wheel, you know, is going round and round. A little while ago Mr. Culin would not, for the life of him, have admitted that there was the slightest contact between Asia and America; and now the wheel has gone round a little farther, and we are getting the contact, and it has carried everything from America over to Asia. Well, several years ago Dr. Boas and I brought the matter to the attention of Mr. Jesup. We had tried for some time to find out if there was any indication of contact between Asia and America in former times. Mr. Jesup got very much interested in that question, and finally he agreed to give a certain sum every year for us to carry on that investigation.

That investigation has led to very interesting results. You all know the results. That work has been going on until a mass of material has accumulated which is really wonderful, and which, when it is all worked up, will tell a very important story. I am not going to say any more about this, but will merely call your attention to that material. Only a very small portion of it is yet on exhibition. There is also much in the notes and reports which cannot be exhibited, but which Dr. Boas will tell you about later, in connection with the Jesup North Pacific Expedition.

Members of the Congress, I should like to go on and speak on the activities of Americans in anthropological research, but the story would be an endless one. I think I could talk about it hours and hours. I see before me many whom I could call upon from various other cities not already mentioned, but we must not give all our time to this, and it is time for us to proceed to the reading of papers assigned to this session.

Papers were then read by Dr. W. J. Holland on "The Petroglyphs at Smith's Ferry, Pa.," and by Prof. A. F. Chamberlain on "The Algonquin Stock," after which the Congress adjourned.

SECOND DAY.

The Congress assembled in general session for the reading of papers on Tuesday, October 21, 1902, at 2 o'clock P.M., at the American Museum of Natural History. The morning hours had been set aside for demonstrations of collections in the Museum.

PROFESSOR F. W. PUTNAM, of the American Museum of Natural History and Harvard University, called the session to order, and announced that on the following mornings during the week, from 9 o'clock until 10.30 o'clock, there would be officers of the departments of anthropology in the various halls of the Museum to receive the Members of the Congress. In accordance with the custom of the Congress he then introduced, as presiding officer of the session, Juan B. Ambrosetti, Vice-President of the Congress for the Argentine Republic.

VICE-PRESIDENT AMBROSETTI then addressed the Congress:

Mesdames et Messieurs.—Comme délégué de L'Université National de Buenos Aires, de L'Université de La Plata, é du Musée National de Buenos Aires. Je remercie l'honneur de cette vice présidence.

Comme messenger de la portion Australe de ce continent Americain, je salue cette grande Republique du Nord, notre soeur ainee, qui dans ce moment nous offre une si gentille é brillante hospitalite, et; chers collegues je la salue de tout mon coeur ravi par ses merveilleux progres dans toutes les directions de l'activité humaine, et surtout par sa haute culture scientifique é son profond respect et enthousiasme pour tout ce qui signifie un effort intellectuel.

Je salue Messieurs cette *Wonderfoul country* qui peut presenter au Monde civilisé un Smithsonian Institution, des Musées modèles come celui de New York, Washington, Philadelphia, Chicago é Cambridge, etc., des innombrables bibliothèques, des Universités de haute culture, des écoles qui ont servi de modèle á tous les païs é qui ont developpé la moderne pédagogie; et chers collégues qui peut aussi presenter un President qui dans son dernier speech, déclare que l'homme si riche qu'il soit s'il ne se dedie pas á sa culture intellectuelle est un poids inutil sur la terre.

Je salue aussi les deux patrons de ce Congrès, ces deux gentlemen citoyens de ce pays que nous avons déjà applaudi, dont l'oeuvre efficace pour l'avancement de la science des Americanistes nous est bien connue: le Duc de Loubat é Mr. Morris Jessup.

Je salue aussi, mes confrères é collegues Americaines é de l'étranger avec des sentiments les plus chaudes de Confraternité Scientifique.

Et dernièrement je rends ici l'hommage de profond respect et d'admiration aux dames at demoiselles que nous accompagnement dans notre tâche scientifique, où avec ses sympathies dans notre oeuvre comme Madame Nuttall, Madame Seler, Mademoiselles Fletcher, Breton et autres qui ont voyagé, ont fait des expeditions souvent dangereuses, et travaillent avec enthousiasme pour nous apporter son contingent de vues et de faits.

A present come délégué de mon pays, je vais vous dire en deux mots, notre travail dans l'Argentine.

Nous y avons deux importants Musées celui National de Buenos Aires dirigé par le célèbre paleontologie Mr. Florentino Ameghino qui lui aussi s'ocupa d'Archeologie autre fois, publiant "*La Antigüedad del Hombre en el Plata*" en deux volumme et divers autres brochures; et le Musée de La Plata de l'état de Buenos Aires dirigé par Monsieur le Docteur Francisco P. Moreno le fondateur des études d'Anthropologie é d'Archeologie dans mon

pays. Les deux Musées ont de grandes collections d'objets d'Ethnographie, Archeologie et Anthropologie de la partie Australe du Continent Sud Americain.

Nous avons aussi des Sociétés Scientifiques come la Société Scientifique de Buenos Aires, L'Institut Geographique Argentine, etc., qui travaillent et produisant.

Dans le Nord West de la Republique Argentine nous avons une tres curieuse civilisation éteinte: celle des Calchaquies qui ont été étudiés par le Docteur Moreno, Ameghino, Leguizamon, Ten Kate, Lafone, Quevedo, Adan Quiroga, Max. Uhle, Lehemann-Nitsche, Bruch et moi-même.

Mr. Felix F. Outes étudie áprésent l'âge de pierre de la Patagonie, et Mr. Louis M. Torres les ancien. Cimitières guaranitiennes des îles du Paraná.

Mais le camp est vaste, il y á beaucoup á faire, nous continuerons notre tache et j'invite mes chers collègues á diriger son attention sur ces contrées ont peut dire vierges encore d'études; et si je peut ici formuler un voeu je dirai qu'après le Congrès de Stuttgart ce serait tres important que le suivant se tienne á Buenos Aires, dans la Metropole de Sud Amerique, la bas aussi, mes chers colléges peuvent être sûrs de trouver non seulement des grands éléments d'étude, mais aussi une franche et cordiale hospitalité.

Je veux vous donner quelques faits et observations á propos des Calchaquis et des étonnantes similitudes qui offrent avec les Pueblos du Sud West de cette Republique.

Vice-President Ambrosetti at the close of his opening address presented to the Congress his paper, entitled "The Archaeology of the Chalchaqui Region, South America."

The floor was then given to Prof. Dr. Hjalmar Stolpe, of Stockholm, to present to the Congress the work of C. V. Hartman, the recipient of the Loubat prize of the present year at Stockholm. Dr. Stolpe said:

It affords me, in my capacity of Director of the Royal Ethnographical Museum of Stockholm, particular pleasure to lay before this Congress a work on American archaeology but lately emanated from that institution, treating, moreover, a collection of materials which forms one of the chief adornments of the museum. The work is Mr. C. V. Hartman's "Archaeological Researches

in Costa Rica," the fruit of over a year's strenuous labor in that country, directed towards the solution and elucidation of the hitherto dark problems of the archaeology of that important region. As Mr. Hartman himself will have something to say with reference to the principal features of what his book contains, I will not enter upon that topic, but will pass on to state some facts with regard to the history of the work itself.

On Mr. Hartman's return from America in 1895, after having taken an active part in the labors of the first Lumholtz expedition in Mexico, he expressed to me a desire to get an opportunity of going to America again, to make independent investigation of some little known region. As it chanced, I was informed by an honored friend of mine, Mr. Ake Sjogren, who had been pursuing his profession of mining engineer in Costa Rica in the beginning of the nineties, and in so doing had acquired a deep interest in the ancient remains to be found in that, from an archaeological point of view, highly important district, that he had formed a desire to despatch at his own cost some suitable investigator to make excavations in certain grave-fields known to him. I acted as an intermediary for my two friends, and before the expiration of a couple of hours a complete plan had been drawn up for an expedition to extend over one year, to begin with. Thanks to a liberality and spirit of sacrifice on the part of Mr. Sjogren, altogether exceptional, at any rate in my country, that period was subsequently extended to three years and a half. During that space of time Mr. Hartman also devoted himself both to archaeological investigations in Costa Rica and on the Pacific coast, and to ethnographical, anthropological and linguistic researches among the Aztec Pipiles in Salvador. It is with great pleasure that I can testify to the very high degree of conscientiousness and accuracy with which Mr. Hartman has carried out his task in every particular, and to the great services he has thus rendered Americanistic research. For his work he has, moreover, had awarded him the greatest distinction it is in our power, in Sweden, to bestow for work of this kind, inasmuch as the Royal Academy of Belles Lettres, History and Antiquities conferred upon him the great prize, for which we are indebted to the keen interest in science, and the munificent generosity of the Duke of Loubat.

It is not, however, with less satisfaction that I take this opportunity of publicly calling attention in this learned areopagus to

the debt of gratitude Americanistic research is under to Mr. Ake Sjögren, who not only conceived the idea and drew up the plan of these researches and subsequently lent them financial support in the most liberal manner, but also presented the exceedingly valuable and extensive collections to the Museum of which I have charge, and finally has made them easily accessible to a large range of students by means of this publication, in the get-up of which he has spared no cost.

The book itself was then laid before the Congress for inspection.

PROFESSOR F. W. PUTNAM: *Mr. President, Ladies and Gentlemen.*—As a member of the Congress I think it is very important that we should acknowledge this beautiful book, which has been prepared by a liberal patron of science abroad, and that we should congratulate our fellow member upon this production, and upon his receiving, as he has, not only the great prize referred to from the Royal Academy of Sweden, but the commendation of all for the preparation which resulted in this volume. I think that a resolution of congratulation should be prepared, and I make the motion, with these informal remarks, that the Congress shall prepare such a resolution.

The motion being seconded, it was thereupon unanimously

Resolved, that a resolution of congratulation be prepared by the Council in accordance with the terms of the motion.

The work of Lic. Genaro García, of Mexico, entitled “Vida y hechos de Pedro Menéndez de Avilés, Adelantado de la Florida. Relación escrita en el siglo XVI por el maestro Bartolomé Barrientos. La publica por la vez Genaro García, en homenaje al XIII Congreso Internacional de Americanistas, Mexico, 1902,” was then presented by Secretary M. H. Saville, who stated that the work had been printed in honor of the Congress. Mr. Saville then read the following letter from the author:

“With the adjoining book I respond to the invitation which I received from the Organization Commission of the XIII International Congress of Americanists, in order that I should take part therein.

I hope that the members of Congress will read with pleasure the two interesting unpublished accounts which I publish

to-day. One of them, *la Vida y Hechos de Pero Menéndez de Vilés*," written in 1568 by Bartolomé Barrientos, whom don Francisco de Quevedo Villegas placed among the most learned and called "doctísimo maestro," is the most authorized history that I know of the expedition which was sent to Florida by Philip II, in 1565, under command of the same Menéndez de Avilés, with instructions to "burn and hang (as he writes) the Lutherans of French extraction that he should find therein." The other, "*la Relación de los Trabajos que la Gente de una nao Llamada Nuestra Señora de la Merced Padeció*," written several years afterwards, by fray Andrés de San Miguel, the *consultor* of all New Spain, according to José Nariano Beristáin y Souza, which refers equally to Florida, though it may be considered less important than the former, respecting the Conquest and Colonization; it exceeds, in compensation, considerably in all that concerns the habits and customs of the aboriginal races; in that way one is the complement of the other.

Notwithstanding that the shortness of time I could dispose of was scarcely enough to copy and print the two relations, I proposed myself to write, though briefly, the preface that follows, with the purpose of giving some short notices of the most celebrated explorers of Florida, Spaniards and Frenchmen, at the time when occupied by aborigines. I determined to trace the culminating features of the general condition of the natives of America under the Spanish domination. However, I had to shorten my studies more than I proposed to do at the beginning, on account of having been attacked by a high fever which kept me in bed for several days.

I must also state that I chose the history of Florida for publication as an act of courtesy towards the nation friendly to my country, where the International Society of Americanists holds to-day its thirteenth session.

I beg of you, Mr. Secretary, to give the present communication to the honorable members of the Congress, to whom I present in the same way that I do to you, my respectful compliments."

MEXICO, October 5, 1902.

GENARO GARCIA.

To the General Secretary of the XIII International Congress of Americanists, New York, U. S. A.

The following papers were then presented to the Congress: "Anthropology in Early American Writings," by J. D. McGuire;

"How I Discovered that the so-called Toscanelli Correspondence was a Forgery, and Science had Nothing To Do with the Discovery of America," by Gonzalez de la Rosa; "The Location of Cibola and the Historic Towns of the Rio Grande Valley in New Mexico Prior to 1630," by F. S. Dellenbaugh; "Archaeological Research in the Southern United States," by Clarence B. Moore.

The following papers were read by title: "The Influence of Four Centuries on the Pueblo Indians," by F. W. Hodge; "Rediscovery of Quivira and Harahey;" "Dakota Indians as Builders of Earthworks;" "Identification of Kakabikansing Quartz Blades," by J. V. Brower.

THIRD DAY.

MORNING SESSION.

The Congress met in general session for the reading of papers in the Lecture Hall of the American Museum of Natural History, on Wednesday, October 22, 1902, at 10.30 o'clock A.M., the hour prior to convening the session having been occupied by members in the demonstration of collections in the Museum.

VICE-PRESIDENT F. W. PUTNAM called the session to order, and stated that the first business was an announcement to be made by the Secretary.

SECRETARY M. H. SAVILLE then made the following report. He said: I will read the programme which is to be followed during the remainder of the week. I wish to call special attention to the notice for to-morrow, Thursday. From 9 to 10.30 A.M., there will be demonstrations of the collections in the Museum. At 11.30 A.M. we are to meet the President and Board of Trustees of Columbia University in the Trustees' room in the Library of the University. We take lunch there at 1 P.M. and will be back here at 2.30 P.M., when the general session for the reading of papers will begin.

PROFESSOR F. W. PUTNAM then said: *Members of the Congress.*—You will recall that to-day is the first day of the second decade of the fifth century since Columbus made his discovery of America, and it is most appropriate that on this occasion we should be presided over by Sr. Alfredo Chavero, the Vice-President for Mexico, who will take the chair this morning.

SR. ALFREDO CHAVERO, Vice-President for Mexico, on taking the chair, addressed the Congress in Spanish, preferring (although

a good English scholar) to use his privilege of employing that language in the reading of his opening address. Señor Chavero, among other things, said that unless a country continued to develop in literature and science its military strength and glory were of no avail. The United States and Mexico were in close relation as countries, and, therefore, it was proper that they should also be closely related in the higher developments of science and literature, and he expressed the great pleasure he enjoyed in the fact that there were many Mexican writers on the United States and many United States writers on Mexico.

VICE-PRESIDENT CHAVERO then presented to the Congress his paper on "Los Signos de los Dias en el Calendario de Palenque."

The following papers were then presented to the Congress: "Some Fundamental Factors in Social Organization," by W J McGee; "A Star Cult," by Alice C. Fletcher; "Secular Altars of the Pawnees," by George A. Dorsey.

The Congress then adjourned to meet at 2 P.M.

AFTERNOON SESSION.

The Congress reassembled in general session for the reading of papers on Wednesday, October 22, 1902, at 2 P.M., in the Lecture hall of the American Museum of Natural History.

One of the topics set down for discussion at the session was the skull found at Lansing, Kansas, in March, 1902, popularly called the "Lansing Man." There were placed upon exhibition upon the platform the skull itself and a jawbone found near it by the finder of the skull. There was also on exhibition a small mass of earth, containing a fragment of bone, taken later by Dr. Hrdlicka from the tunnel in which the skull was found, and photographic enlargements of drawings made by Dr. Hrdlicka of the place where the finds were made. There was also on exhibition a skull taken from the gravel near Trenton, New Jersey, in field-work under the supervision of Prof. F. W. Putnam, and a skull taken from a shell bank near Fort Wayne, Georgia, and brought by Prof. W. H. Holmes to the Congress.

LEON LEJEAL, Vice-President for France, presided, and delivered the following address:

Mesdames, Messieurs.—Vous m'excuserez, tout d'abord, de m'exprimer en français, puisque c'est encore la langue que je parle le moins mal. T'aurais pourtant aimé vous dire, de manière à être compris de tous, combien je suis honoré d'avoir à présider aujourd'hui votre assemblée. Cet honneur, permettez moi de le reporter tout entier sur le noble pays que je suis fier de représenter parmi vous. Au nom de la France, je vous remercia de grande cœur et j'apporte mon salut confraternal aux savants des deux mondes, réunis dans la cordiale et charmante hospitalité de l'American Museum of Natural History.

Te vous salue aussi, très respectueusement, mesdames, vous dont la présence met de la grâce et comme un sourire dans nos séances un peu austères—avec un souvenir tout particulier à celles d'entre vous qui, comme Mmes. Seler et Nuttall ou comme Miss Fletcher, joignant à l'érudition le courage des exploratrices.

Ce devoir de gratitude accompli, je vous dois aussi, d'après la délibération précédemment prise par le Bureau du Congrès, un court exposé des progrès que les études Américaines ont réalisés en France depuis l'année 1900. Hélas! le nombre des hommes d'intelligence et de dévouement qui, chez nous, s'en occupent, s'est encore trouvé diminué depuis deux ans. L'andernier, nous avons perdu, dans un horrible drame de mer, le professeur Léon Marillier, emporté à la fleur de l'âge, en pleine vigueur de pensée et de talent. Chargé, à l'École des Hautes-Études, de l'enseignement des religions des peuples non-civilisés, il appartenait à l'Américanisme, par de savantes recherches sur les sujets les plus variés, en particulier sur le *totémisme*.

D'autres nous restent heureusement: Désiré Charnay, dont la verte vieillesse rêve de nouveaux travaux et qui met la dernière main à une édition française de l'important manuscrit Ramirez:—le docteur Hamy, l'actif organisateur de notre dernier Congrès, dont j'ai en l'avantage de vous apporter un troisième volume de *Decades Americanae*. Le docteur Hamy a consacré, l'an dernier, aux races Américaines tout le cours qu'il professe avec tout d'éclat au Muséum d'histoire naturelle de Paris. Ce cours a réuni un nombre considérable d'auditeurs.

Affluence de bonne augure, messieurs, pour l'avenir de notre science; car c'est par un enseignement régulier qu'on arrivera à diriger vers elle l'activité des jeunes travailleurs français. D'autre part, à la prochaine rentrée scolaire, le Collège de France qui est,

chez nous par excellence, le maison de la science pure et désintéressée, ouvrira un nouveau cours d'archéologie, exclusivement consacré à l'Américanisme.

Te ne sarprenrai personne ici, en vous apprenant que cette création est une nouvelle libéralité du généreux Mécène auguel notre science doit déjà tant. Comme Français, comme titulaire de la nouvelle chaire d'antiguités précolombiennes, je n'éprouve aucune gêre et j'éprouve un riel plaisis à signaler ce nouveau bienfait et à affirmer notre gratitude française ouvers l'éminent citoyen des Etats-Unis qui s'appelle le duc de Loubat. Nous nous réjonissores, messieurs, de le voir maintenant apporter aux scéances de l'Institut, comme correspondant de l'Académie des Inscription, la verve et l'enthousiasme dont il animait déjà La Société des Américanistes de Paris.

Cette dernière, messieurs, vous l'arg une tonte jeune encore, lon de utre dernière session. Elle a grandielle a congrès décidément droit de cité dans le monde scientifique, et son journal, par de récentes études de M. Auguste Génin sur l'ethnographie des Matlatzincos, de M. Adam sur la linguistique Américaine, de M. Verneau sur l'anthropologie, s'est mis an premier rang des publication spéciales. De l'intérêt croissant qui s'attache en France aux études Américaines, voici encore une preuve: eh 1901, deux mémoires, l'un sur les déconvertes archéologiques de l'Oaxaca, l'autre sur les pétroglyphes du rio Orinoco, ont été présentés au Congrès qui groupe, ammellement, ehy nous tous le délégués des sociétéés savantes.

Enfin, messieurs, la science ne s'édifie pas ser lennt daus les livres on par la parole, mais sur le terrain. Te tiens done à mentionner qu' à côté de nos savants de cabinet et de nos professeurs, nous avons aussi nos missionaires scientifiques. Parti de Paris en juillet dernière, M. Léon Diguët a dû reprendre ces temps. ci, le cours de ses recherches dans La Basse, Californie et la Sonora. Notre Musée du Crocadero vient d'offrir a ses visiteurs les collection recueillics dans la Sud-Amériqu par le comte de La Vaulx. Celle est, messieurs, pendant les deux années éconlées, la part prise par le France aux travaux de la Science Américaniste. Si ce résumé vous semble maigre, apris la intéressants et riches Comptes Rendus que vous avez entendas hier et ce matin, je pais, da moires, vous affirmer qu' on n'inrestes a pas là au pays d'Aubin,

d'Ongrand, de d'Orbigny, qui est aupi La patric des Champollion, des Mariette et des Maspéro.

The Vice-President then read his paper, entitled "La Collection Céramique de M. de Sartiges et les vases péruviens à forme d'aryballe du Musée National d'Ethnographie du Trocadero."

The following papers were then presented to the Congress: "Presentaton of the Lansing Skull," by T. C. Chamberlain, W. H. Holmes and George A. Dorsey; "On the Lansing Man," by S. W. Williston; "Somatological Notes on the Bones of the Lansing Man," Ales Hrdlicka; "The Work of the Jesup North Pacific Expedition," by Franz Boas; "The Folk-lore of North-eastern Siberia as Compared with That of Northwestern America," by Waldemar Bogoras; "The Mythology of the Diegueños, Mission Indians of San Diego County, California, as Proving Their Status To Be Higher Than Is Generally Believed," by Constance Goddard DuBois; "On the Archaeology of the Delaware Valley," Exhibition of Specimens, by F. W. Putnam.

W J McGEE, being recognized by the Chair, said:

Mr. President, Ladies and Gentlemen.—We have heard very briefly presented this afternoon a part of the results (a very small part of the results) of one of the most magnificent series of anthropological investigations ever projected and ever carried forward. I want your attention just long enough to ask you, ladies and gentlemen, whether you will not second my motion—that this Congress express its high appreciation of the work of the Jesup North Pacific Expedition in all its ramifications—I move you, Sir, that the Congress do so express its appreciation of the work of the expedition.

MR. HALE: *Mr. President*, in seconding the motion, allow me to make an amendment to it. That the thanks of the Congress be tendered to the eminent philanthropist, Morris K. Jesup, our own President and the President of the Museum, for his munificence in enabling that institution to prosecute this work.

It was thereupon unanimously *Resolved*, That the International Congress of Americanists hereby expresses its high appreciation of the work of the Jesup North Pacific Expedition, and tenders its thanks to Morris K. Jesup, the President of the Congress and the President of the American Museum of Natural History, for

his munificence in enabling the Museum to prosecute the work. It was *ordered*, That the Resolution be properly worded and recorded, its mover to prepare the same, to be sent to the Council of the Congress.

FOURTH DAY.

The Congress assembled in general session for the reading of papers on Thursday, October 23, 1902, at 3 P.M., in the Lecture Hall of the American Museum of Natural History. The early morning hours had been spent over demonstrations of collections in the Museum, and the middle of the day devoted to a reception and luncheon given to the Congress by Columbia University.

PROF. KARL VON DEN STEINEN, Vice-President for Germany, on taking the chair, delivered the following address:

Ladies and Gentlemen.—I obey with diffidence your call to act as presiding officer this afternoon, and claim your kind indulgence with respect to my use of your English idiom and my exercise of your parliamentary methods, as I am not familiar with them. I thank you most sincerely for the honor conferred upon me, which is certainly symbolic of American courtesy addressed to the land which I am here to represent.

Permit me to state that, of all the meetings of this Congress since 1875, it was at the meeting in Berlin, in 1888 (at which there first appeared scientists of North and South America), that for the first time a North American occupied the chair in this Congress of Americanists. I am only too glad to meet him here again. It was Mr. Edward S. Morse.

It is the ardent wish of all my countrymen that the scientific exchange and coöperation of the United States and Germany may continue to grow, in intensity and vigor, in the same degree as has grown your wonderful progress in mythological research. The best occasion for expressing the feeling of my countrymen will occur when, on the day of closure of these sessions, you will decide upon the place of the next meeting in Europe, and I shall have the honor to invite you all to one of the most lovely places in all Europe.

Our honored President has authorized me (an honor for which I feel greatly indebted) to say at this time a few words in memoriam of a German of world-wide reputation, Rudolph Virchow. I am still under the deep impression made upon me by the solemn

funeral of the 10th of September, given by the City of Berlin to this prince of science.

Rudolph Virchow had arrived at the venerable age of nearly eighty-one years when he died, in consequence of a violent fall received by accident when stepping from a street-car on his way to our geographical society. During that long life he worked stupendously—worked assuredly, more than anybody else on the face of the earth, not even excepting the men of this country of indefatigable energy. The simple list of his contributions to the domains of knowledge fills a single volume. Physiology, anthropology and anthology were no doubt, his favorite studies, more particularly with regard to the antiquity of man; and all yesterday afternoon here I could not help thinking of him and missing his voice.

Virchow has contributed to science innumerable investigations, especially, into the American race in all its varieties, from the Atlantic to the Pacific, from Alaska to Tierra de Fuego. His lecture on the formation of skulls in North and South America was on a topic which still aroused his interest during the last year of his life. This man of an unrivaled mass of observation was never in the New World, but I know from his own lips that he was always particularly proud to have so many friends in America, and was deeply grateful for the valuable material given to him by American scholars. Except Alexander von Humboldt, there has never lived a more sympathetic and a more active representative of the internationality of science.

As to giving a review of the German work of Americanists since 1900, the length of our programme compels me to make no more digressions. The best work has been done by the holder of the Loubat prize, my French colleague, M. Lejeal, who will himself have a communication to make.

I want to call your attention also to an important communication on ancient Peruvian art, by Dr. Arthur Baessler, a German traveler, who brought a very rich collection from Lima, Peru, a collection of about 12,500 finds from Columbian graves, which he gave to the museum in Berlin. The work he has been publishing is finished; you see here some of the plates; he is publishing it in four volumes. This is especially interesting on account of the development of some ornamental designs. The representations are projected from the globular form of the vases to the

level surface. I cannot, however, enter into further details about it, but must pass to the order of the day.

The following papers were read before the Congress: "American Indian Music; Ethnic and Artistic Significance," with illustrations upon the pianoforte, by Arthur Farwell; "The Physical Characters of South Mexican Indians," by Frederick Starr; "Are there Pygmies in French Guiana"? by L. J. van Panhuys; "The Social Organization of the Cheyennes," by George Bird Grinnell; "A Navajo Sand Picture of the Rain Gods and the Attendant Ceremony," by Alfred M. Tozzer; "The Languages of California," by Roland B. Dixon and A. L. Kroeber; "The People of the Pueblos," by Mrs. Virginia McClurg.

FIFTH DAY.

MORNING SESSION.

The Congress assembled in general session for the reading of papers on Friday, October 24th, 1902, at 10.30 A.M., in the Lecture Hall of the American Museum of Natural History. The previous hour had been occupied with demonstrations of collections in the halls of the museum.

The topic set down for discussion at the session related to Mexico and Central America. Pictures, drawings, photographs and cartoons of monuments, temples and tombs were suspended along the sides of the hall. A kinetoscope and phonograph were used in combination to depict certain phases of the Maya songs and dances, and stereopticon slides illustrated a number of the papers. Upon the tables were displayed many volumes, some of which had been presented to the Congress, upon matters germane to the subjects under consideration. Among the volumes were the following: *Congrès International des Américanistes, XII^e Session, tenue à Paris en 1900* (which had just been received); *Los Signos de los Dias, Alfredo Chavero*; *Ancient Peruvian Art, Contributions to the Archaeology of the Empire of the Incas*, from his collections, by Arthur Baessler, translated by A. H. Keane; *Bibliothèque De Bibliographies Critiques, Publiée par la Société Des Études Historiques*; *Les Antiquités Mexicaines (Mexico, Yucatan Amérique-Centrale)*, par Léon Lejeal, chargé d'un Cours d'Antiquités au Collège de France; *Biologia Centrali-Americana*, Godman and Salvin, *Archaeology*, Maudslay; *Explorations of Monte Alban*,

by Leopoldo Batres; *Excavaciones en la Calle de las Escalerillas*, por Leopoldo Batres; *Codex Vaticanus*, No. 3,773 (*Codex Vaticanus B*), by Dr. Eduard Seler, Berlin (*Loubat, Ed.*); *Antiguedades Mexicanas*, por el Dr. Antonio Peñafiel (1902), *Al Sr. J. Florimond, Duque de Loubat, El Templo De Mexico Antiguo y los Monumentos Encontrados en las Excavaciones De 1897 y 1902*, por el Dr. Antonio Peñafiel; *A Glimpse at Guatemala*, by Anne Cary Maudslay and Alfred Percival Maudslay; *Ensayo Bibliografico, Mexicano, Del Siglo XVII*, por Vincente de P. Andrade; *Lenguas Indigenas del Estado de Oaxaca*, El Ayook, by Francisco Belnar; *Archaeological Researches in Costa Rica*, by C. V. Hartman; an undated Nahuatl pre-Columbian Codex—*Codice Mariano-Jimenez*, presented by Dr. Nicolás León; and an ancient Hispano-Mexican manuscript, presented by Mrs. Zelia Nuttall.

HJALMAR STOLPE, Vice-President for Sweden, of the Royal Ethnographical Museum, occupied the chair, and made the following introductory address:

VICE-PRESIDENT STOLPE: *Ladies and Gentlemen.*—Before opening the meeting to-day I have to thank the Congress for the great honor that has been conferred upon me by making me a vice-president. This is an honor not only to me, but to the land that I represent.

I wish to say a few words about the great loss that Sweden, and I believe the whole scientific world, suffered last year, when her renowned scientist, Erik Nordenskjöld died. All who attended the Congress of Americanists in Stockholm in 1894 will remember the important part he took in the meetings of the Congress, and I think that it was due to his interest that the Congress met at Stockholm at that time.

Nordenskjöld was not, as you know, an Americanist; he was not an ethnologist or archæologist. His profession was that of a mineralogist, but through the force of circumstances he became in time a most renowned geographer. He was born in Finland, but some political complications with the Russian government, of a most important character, caused him to go over to Sweden and take up his abode there. There he worked firmly and faithfully for scientific interests of every kind. I need not say anything about his geographical explorations,—they are too well known.

We were all very sorry to lose him when he died last year, and we will hardly get any other man as efficient as he was for the promotion of the sciences in Sweden. His only son, Edward Nordenskjöld, is following in the steps of his father, and this summer he returned from an expedition to South America. We hope that he will be competent to take up his father's work in Sweden.

The Congress then listened to the following papers: "The Pictorial and Hieroglyphic Writing of Mexico and Central America, by Eduard Seler; "A Suggestion to Maya Scholars," by Mrs. Zelia Nuttall; "Explorations at Monte Alban," by Leopoldo Batres; "The Excavations in Escalerillas Street, City of Mexico," by Leopoldo Batres. The two papers by Mr. Batres were translated by Frederick Starr; "El Templo Mayor de Mexico antiguo y los Monumentos encontrados en las excavaciones de 1897 y 1902," by Antonio Peñafiel, presented by Eduard Seler; "Ancient Mexican Religious Poetry," by Eduard Seler.

The Congress then adjourned to meet at 2 P.M.

FIFTH DAY.

AFTERNOON SESSION.

The Congress reassembled in general session for the reading of papers on Friday, October 24, 1902, at 2.30 P.M., in the Lecture Hall of the Museum, to continue the presentation and discussion of topics relating to Mexico and Central America.

ALFRED P. MAUDSLAY, who presided, was conducted to the chair by PROF. F. W. PUTNAM.

PROF. F. W. PUTNAM said: *Ladies and Gentlemen.*—As you have noticed by the proceedings from day to day one of the Vice-Presidents from a foreign country has presided at each session. We have had our five Vice-Presidents in the chair. This afternoon it gives us great pleasure to have there a gentleman who has just come from England, for thus we are able to acknowledge and give courtesy to another country; although he is not officially a Vice-President, certainly there is no one more capable of presiding over a meeting that has for its discussion Mexican archaeology than Alfred P. Maudslay, of England.

ALFRED P. MAUDSLAY, of the Anthropological Institute of Great Britain and Ireland, in taking the chair, said:

Ladies and Gentlemen.—I must thank you most sincerely for the honor you have done me in asking me to take the chair this this afternoon; the more so, as Professor Putnam has said, that I am not really and technically a Vice-President of this society. For that very reason the honor that you have done me is all the more agreeable.

I feel so conscientious when I think of my distinguished predecessors in this chair that I shall not detain you with any general remarks because we have a long list of papers to read, and I know that you want more to hear what will thus be submitted to you than anything I can say.

The following papers were then read before the Congress: "Datos referentes á una especie nueva de escritura geroglífica en Mexico," by Nicolas Léon; "A Penitential Rite of the Ancient Mexicans," by Mrs. Zelia Nuttall; "Mural Paintings of Yucatan," by Edward H. Thompson; "Phonographic Reproduction of Maya Songs and Conversation," by Edward H. Thompson; "Indian Tribes of the State of Oaxaca, and their Languages," Francisco Belmar.

MISS ADELE BRETON then exhibited to the Congress copies made by her of mural paintings on the ruins of a temple at Chichen-Itza, Yucatan. These drawings, which were of large size, were suspended on screens before the platform and among them were the following: (1) Upper Temple of the Tigers, ball court, inner chamber, west side, north side of door; one foot is missing near the door; a border a foot wide comes below, described by Dr. Wallis Bridge as representing a fortified village. (2) Upper Temple of the Tigers, inner chamber; lower corner above border, south side. (3) Upper Temple of the Tigers, Chichen-Itza, inner chamber, east side, north end—fighting in a mountainous country. (4) Upper Temple of the Tigers, ball court, Chichen-Itza, inner chamber, west side; south of door, upper part.

CHAIRMAN MAUDSLAY, commenting upon the pictures, said: *Ladies and Gentlemen:* As Miss Breton has not a paper to read, I think you will allow me to say something about the pictures you have here. Some years ago Miss Breton asked me if there was anything she could do at Chichen-Itza. I did not hesitate to tell her that I thought there was nothing that would be more valuable than a record of the mural paintings at Chichen-

Itza. Mural paintings, you know, are very scarce. Nearly all of them have been destroyed. But in this building, which is the great ball court at Chichen-Itza, you see that here is the wall. There are parallel walls, one hundred yards long. At the long end of one wall is a very beautiful temple. It was one of those temples with serpent columns, where the capitol of the column had the rattlesnake tail on the face of the building which supported a wooden lintel; and in every case, except in Castillo, the weight of that capitol has torn the face of the building out. In Castillo the end of the capitol was knocked off, but the equilibrium was preserved. In *this* picture you can see the columns. The mural element there is destroyed as far as paintings go, but you pass through an elaborately-carved doorway and under an elaborately-carved wooden lintel and then into the chamber itself, where are these remains of mural paintings. They have been horribly disfigured. All the neighbors had put their names over them with a stick when I went there, and they were dirty and grimy. I made some efforts, and Mr. Thompson made some efforts, to keep a record of them. I then experienced how very difficult it was to get accurate copies. I think we really owe a very great debt to Miss Breton for the extraordinary care and accuracy with which she has reproduced those paintings.

You will see three screens of them here, and some more on the other side. It has taken considerable time to reproduce them, and it was only by the utmost patience and care; but I think the result is very admirable. I shall ask you to look at them carefully and follow all those wonderful pictures (the small one particularly) of a human sacrifice.

MISS BRETON then, by request, explained the pictures in detail. She remarked, in passing, that what the chairman called a human sacrifice was an embalming scene. The red object shown on one of the screens had been supposed to be a canoe; but Mrs. Nuttall and the speaker agreed that it was not a canoe, but a fortified village; houses with their hatched doors could be seen; and there was a battle scene of warriors painted in blue.

The examinations of the mural paintings copied by Miss Breton closed the proceedings for the day, and the congress adjourned.

SIXTH DAY.

MORNING SESSION.

The Congress met in general session for the reading of papers on Saturday, October 25th, 1902, at 10.30 A.M., at the American Museum of Natural History. The early morning hour had been given up to demonstrations of collections in the Museum, and at 10 A.M. a meeting of the Council had been held to determine the place where the Fourteenth Congress should be held in 1904.

L. C. VAN PANHUYS, delegate from the Netherlands government, presided. In taking the chair, he said that he deeply felt the honor which had thus been conferred upon him because it was only another indication of the kind feelings that existed between the Americans and the Dutch.

CHAIRMAN VAN PANHUYS, in view of the pressure of time upon the Congress, then presented a condensation of two of his several papers on the list of papers to be read, *viz.*, "*About a well-known name given by the Dutch when exploring the Hudson River (the 'Catskill' and the Catskill Mountains).*"

"*A Communication of the Curacao Society for History, Language and Ethnology in the Dutch West Indies, about the grave of Columbus.*"

The following papers were then presented to the Congress : "The Racial Unity of the Historic and Prehistoric Aboriginal People of Arizona and New Mexico," by William P. Blake ; "On the Linguistic Features of Ancient Peru," by Max Uhle ; "Notes on the Peculiar Language of the Chimu of the Peruvian Coast, and on Some Traces of the Use of Hieroglyphic Writing by this Civilized People," by Gonzalez de la Rosa ; "Carib Indian Words in the Dutch Language and in Use at Dutch Guiana," by L. C. Van Panhuys.

The Congress then adjourned to meet at 2 P.M.

SIXTH DAY.

AFTERNOON SESSION.

The Congress met in final session for the reading of papers on Saturday, October 25th, 1902, at 2 P.M., in the Lecture Hall of the American Museum of Natural History.

PRESIDENT MORRIS K. JESUP occupied the chair. HONORARY PRESIDENT, THE DUKE OF LOUBAT, was present. VICE-PRESIDENTS JUAN B. AMBROSETTI, ALFREDO CHAVERO, LEON LEJEAL, KARL VON DEN STEINEN, HJALMAR STOLPE, and F. W. PUTNAM were called to the platform.

The PRESIDENT called the Congress to order, and announced that the General Secretary had a communication to make.

GENERAL SECRETARY M. H. SAVILLE stated that, as a matter of business, it remained for them, as a Congress, to recommend a place for the next meeting; that the Bureau that morning had agreed upon Stuttgart, and had nominated Count Linden, Professor Karl von den Steinen and Dr. Eduard Seler to act as a committee to arrange for the next Congress at Stuttgart. The Secretary suggested that the matter should take the form of a motion, to be acted on by the Congress.

PROF. VON DEN STEINEN said: *Mr. President, Ladies and Gentlemen.*—The President of the last Paris Congress, Dr. Hamy, having written to me that it would be desirable to hold the next meeting in Germany, I considered this question with my friend, Dr. Seler, and some other friends, and we came to the conclusion, first, that it would be best to select for the meeting a place in South Germany, the first Congress in Germany having taken place in Berlin, North Germany; and, secondly, that Stuttgart, on several accounts, would be the most favorable place.

Stuttgart, that most charming capital of the kingdom of Würtemberg, is splendidly situated, as far as connections go, to France, to Italy, to Switzerland, and to the South of Europe, and nearby is the small but important University of Tübingen. The King of Würtemberg is known for the great interest he takes in the promotion of science. His Lord Chamberlain, Count Linden, is the President of the Ethnographic Museum in Stuttgart—a museum which is not old, but which has very important collections. Some of its specimens are very old and valuable; for instance, some feather shields of the time of Montezuma. Count Linden has proved to be a manager of the first order for similar occasions to ours. For instance, for the Geographical Congress, which has taken place in Stuttgart. To our great pleasure, he has declared himself quite ready to undertake the management of this Congress. The Mayor of Stuttgart, also, offers us the

hospitality of the town, so I invite you all most heartily to Stuttgart, and beg you to select that place for the next meeting.

The motion made by Prof. Von den Steinen being duly seconded, it was thereupon unanimously

Resolved, That this Congress accept the kind invitation extended to it to hold its next meeting, two years hence, at Stuttgart.

The following papers were then presented to the Congress: "About the Ornamentation in use by Savage Tribes in Dutch Guiana and its Meaning," by L. C. van Panhuys; "Archæological Researches in Costa Rica," by C. V. Hartman; "Certain Clay Figures of Teotihuacan," by H. Newell Wardle; "Notes on the Art of Pueblo Bonito, New Mexico," by George H. Pepper.

The reading of papers having been concluded, the President inquired what other business was before the Congress.

The General Secretary read the following letter:

Mr. President, Gentlemen, and Members of the Commission of Organization.—At this time when the meeting of the Thirteenth Session of the International Congress of Americanists is to take place, the members of the Organization of the Twelfth Congress wish to convey their most sincere and cordial wishes for the great success of the new meeting, which is devoted to the study and progress of a science that is equally dear to us. They have no doubt that, thanks to your efforts, and thanks to the care with which you have organized, the Congress at New York will be most important in the annals of Americanism; not only on account of the number of its adherents, but also by reason of the importance of the communications which will be presented; and they take pleasure in applauding, in advance, with both hands to the entire success of the new Congress. We are happy to announce, confidentially, that the negotiations entered into by the Bureau of the Congress of 1900 for the choice of a place of meeting of the new Congress, in the Old World are likely to be successful, and in all probability, the Fourteenth Session of the International Congress of Americanists will take place in Stuttgart.

Accept, gentlemen, with our best wishes, the expression of our most distinguished and devout sentiments.

The President of the Twelfth Session of the International Congress of Americanists,

(Signed) E. T. HAMY, of the Institute of France.
Secretary-General Henri Froideraux.

The General Secretary read two communications to the Congress, one from the President of Yale University, extending an invitation to the members to visit the University at any time, at their convenience, after their return to New York from their projected trip to the West, and one from the President of the Davenport Academy of Sciences, inviting the members, if possible, to visit the Academy. The Secretary also stated that Prof. Putnam had a communication to make in regard to the invitation to visit Harvard University.

PROF. F. W. PUTNAM said: *Mr. President, Ladies and Gentlemen—* I think that this is the last time I shall have the pleasure of appearing before you at this session, and I appear at this time to say a few words in regard to your future movements. You are to go to Cambridge on Wednesday morning, November 5th, and visit Harvard University and the Peabody Museum. You will be taken care of during the day, and in the evening you will do as you please. It is merely a day fixed for any of you who can come on to Cambridge for the day. You can leave New York on the midnight train, and arrive in Boston in the morning at seven o'clock, and can go out to Cambridge on the trolley in half an hour. I shall be at the Museum to receive you during the morning, and hope to see you there.

On motion of the Duke of Loubat, duly seconded, a committee of three was appointed, consisting of Prof. F. W. Putnam, Prof. Franz Boas and General Secretary M. H. Saville, to prepare the report of the proceedings of the Congress.

A motion was made that a vote of thanks be tendered to the American Museum of Natural History for the accommodations which the Museum had furnished to the Congress; to Morris K. Jesup, President of the Museum and President of the Congress, and to Honorary President, the Duke of Loubat, for their services to the Congress; and to Prof. F. W. Putnam, General Secretary M. H. Saville, and those directly in charge of the arrangements, for the kindness and courtesy with which they had performed their arduous labors.

VICE-PRESIDENT KARL VON DEN STEINEN obtained leave to speak before the motion was put. He said: I wish to say that, if this Congress has turned out a great success, surely we owe it to the whole Committee of the Congress, to the General Secretary,

and last, but not least, to our President. *Mr. President*—you said in your opening address you were a lover of science. If Science were a lady, Mr. President, I trust you would now see (once more) that your feeling was fully reciprocated. *Members of the Congress*—I beg to propose that the heart-felt thanks of this Congress, in the form of three cheers, be given to our President!

The proposal was received with a hearty burst of applause and three cheers.

PRESIDENT JESUP replied: *Ladies and Gentlemen*—I thank you for your kind response.

The pending motion being then before the Congress, it was

Resolved, That the thanks of the Congress be extended to the American Museum of Natural History for the accommodations it has furnished to the Congress; to Morris K. Jesup, President of the Museum and President of the Congress, and to The Duke of Loubat, Honorary President of the Congress, for their great services to the Congress; and to Prof. F. W. Putnam, General-Secretary M. H. Saville, and those directly in charge of the arrangements of the Congress, for the kindness and courtesy with which they have performed their arduous labors.

On the motion of Prof. F. W. Putnam, duly seconded, it was

Resolved, That every paper on the list of papers to be read that has not been reached shall be considered as read by title, and shall be referred to in the Report of the Proceedings of the Congress.

The General-Secretary reported to the President that the business of the Congress was finished. The President then delivered the following closing address.

PRESIDENT MORRIS K. JESUP said: *Members of the International Congress of Americanists*—In closing this very interesting convention, I hope that you have received some benefit from your visit here in this country and your inspection of the specimens and collections that have been presented to you during your stay here. As I said at the opening of this convention, we all feel that we have had a great deal to learn from you, and I hoped that you would find something to learn from us. I still hope that you have found that something.

As you depart from this place, I want to bid you God speed,

and success to this Americanists' Congress. This convention, which seems to have established itself so firmly among the scientists of the day, has the coöperation of the governments and nations, which you represent.

I thank you personally for your courtesy to me, and on behalf of the American Museum of Natural History, of which I am President, I convey to you the expressions of gratitude on the part of the Trustees that you have seen fit to honor them and this Museum with your presence. I wish you all good by.

The Congress then adjourned.

The foreign members of the Congress, during the week following the sessions, were the guests of the Pennsylvania Railroad Company on an excursion to Chicago, including visits to Philadelphia, Washington, Pittsburg, and "Fort Ancient," in southern Ohio and Cincinnati.

LIST OF PAPERS READ BY TITLE.

"Conventionalism in American Art," by Franz Boas; "Rediscovery of Quivira and Harahey," "Dakota Indians as Builders of Earthworks," "Identification of Kakabikansing Quartz Blades," by J. V. Brower; "The Ethnic Significance of Games in Reference to New and Old World Cultures," by Stewart Culin; "Sintesis ó construccion grammatical de la Lengua Quiche" by Juan F. Ferraz; "The Hopi Earth Mother," by J. Walter Fewkes; "Contributions a l'étude de la Langue Tehuelche ou Tsoneka de la Patagonie," by Raoul de la Grasserie; "The Aztecs of Salvador," by C. V. Hartman; "The History of the Sun God in India, Persia, and Mexico: His Annual Death and Resurrection, and his Impenetrable Armour," by J. F. Hewitt; "The Influence of Four Centuries on the Pueblo Indians," by F. W. Hodge; "Physical Anthropology of the Indians of the Southwestern United States and Northern Mexico (The Hyde Expedition)," by Ales Hrdlicka; "Notes relatives au Phénicianisme des Langues Américaines," by Marie Lecocq; "Conventionalism in Designs of the Huichols of Mexico," by Carl Lumholtz; "Probable Myths of Parturition," by Washington Matthews; "Reforma del Alfabeto Español," by Emilio Max Montes; "Estudio sobre la Raza Ayookó Mixe, y la lengua hablada for ella," by Francisco Belmar; "The Relation of the Glacial Period to the Peopling of America," by W. H. Holmes; "No Evidence of Chinese Contact in Central

America," by Edward S. Morse; "Las Primeras comunicaciones entre El Viejo y Nuevo Mundo," by Eduard Norièga; "The Ancient Mexican Name of a Constellation According to Two Different Authors," by Zelia Nuttall; "On Possible evidence of Early Pleistocene Man in America," by Henry Fairfield Osborn; "The Various Symbols Common in the East which Are Found in America," by Stephen D. Peet;" "The Language of Terraba Indians of Costa Rica," by H. Pittier de Fabrega; "The Cruciform Structures of Mitla," by M. H. Saville; Antiquities of the Pacific Slope of Guatemala," by Eduard Seler; „The Early Civilization of America," by Charles Hite Smith; "Shell Heaps of the Lower Frazer River, British Columbia," by Harlan I. Smith; "Swedish Ethnological Work in South America and Greenland," by Hjalmar Stolfe; "Archaeological Resarches in Peru," by Max Uhle; "On the Toscanelli Letters," by Henry Vignaud; "The Indian of Northwestern California," by A. L. Kroeber.

The Petroglyphs at Smith's Ferry, Pennsylvania.

BY

W. J. HOLLAND, LL.D., DIRECTOR CARNEGIE MUSEUM.

The region of which Pittsburg is the metropolis, was, at the time it was first entered by white men, populated by Indian tribes, either forming part of the Confederacy of the Six Nations, or holding treaty relations with them. It is believed that these tribes had been preceded by other peoples. There is every evidence that this region was once occupied by the mound-building race, which has left so many memorials of its activity through the valley of the Ohio, and before them, no doubt, by the man of the glacial age, traces of whom have been found in the vicinity of Steubenville. Mounds abound on the banks of the Allegheny and Monongahela, and are quite numerous between Pittsburg and the point where the Ohio leaves the State. It is known that in early times there were several large mounds within the limits of the present city of Pittsburg. With the progress of development these have been obliterated. One of them stood on the top of Grant's Hill, on the site of the present Allegheny Court House. Another occupied the ground upon which stands to-day the First Presbyterian Church. It was here that the Indians buried their dead long before the French garrison of Fort Duquesne chose the spot as a burial place for their dead. One of the largest of the mounds was located in the suburbs, at McKee's Rocks. This was opened and thoroughly explored in the fall of 1896, at which time we had the pleasure of having with us Professor Putnam, who assisted us with his "spade and shovel" in doing many things.

At points along the streams the aborigines left not only mounds, but rude carvings upon the rocks. An effort is now being made by the Carnegie Museum to ascertain where all these mounds and sites of villages are, and to fix the location of all sculptured rocks which are in existence, or have been in existence. I may say that

in this matter we have to some extent to fall back upon tradition. The railways search for feasible routes along the rivers, and it was just on the river-banks, where the rocks came down to the water's edge, that the Indians made most of their carvings. Many of these sculptured rocks have been broken to pieces. Recently I took part in an excursion up the Monongahela Valley in search of certain carvings, which we had been told existed at certain places on the stream. When we came to the spot we found railroad cuttings, and the edge of the stream filled in with splintered stone. The carvings had been blown up with dynamite. At Smith's Ferry on the Ohio River, about one-fourth of a mile from the railway station of the Cleveland & Pittsburgh Railroad, on the north bank of the river, there is a long flat reef of sandstone, which is only uncovered at times when the river, owing to drought, is phenomenally low. This happens once in six or seven years. Upon the smooth flat surface of this long reef there are a multitude of Indian carvings. Inasmuch as the United States government is constructing a dam below Smith's Ferry, which, when finished, will maintain the water at a constant depth of at least eight feet over the reef, we felt it incumbent to make an effort to preserve a record of as many of these carvings as possible. Some of them, owing to the scraping of ice-flows and the bottoms of passing coal-boats, have been so much effaced that it seemed hardly worth while to do more than to make note of the fact that they were once there. Among these carvings there are some that are beautifully preserved; and of all these we had moulds made by Theodore A. Mills, the sculptor; and from the moulds we have had reproductions cast. A series of these is on exhibition at the Carnegie Museum, and those of you who visit us next week will have an opportunity to examine them.

I shall not weary you by attempting to give a detailed account of all these carvings, but among them there are a few of peculiar interest. One represents an eagle carrying away a papoose in its talons. The eagle is a fairly recognizable eagle, and the papoose is not a wholly inartistic attempt to show an Indian baby swathed in the wrappings that the tribes used. Now, if there be present any man learned in Indian folk-lore, who knows the story, perhaps he will kindly enlighten me at this point. No one venturing to tell the story, I may say that without any other knowledge than that gained from the carving itself, it appears to me that it simply

represents a tragedy of the woods a couple of hundreds of years ago, for these carvings are undoubtedly not less than a hundred and fifty years old. Another curious carving represents the tracks of a deer, followed by the well-defined tracks of a panther, succeeded by rudely carved imprints of the feet of a man, and this is carried along quite a distance over the reef. The artist who made the carving apparently endeavored to tell the story of a chase in which both quadruped and biped were represented as pursuers.

There are representations of the "thunder-bird", an eagle with lightning in his talons. Many quadrupeds are represented,—the tortoise, the opossum, the otter, and the American bison, or buffalo. This animal once was found in western Pennsylvania. The fact is commemorated on the map by the name applied to a stream by the early settlers—Buffalo Creek. The rude petroglyph of which I am speaking represents a bison engaged in combat with a wolf or dog. The bison is shown in the act of tossing the wolf on his horns. So far as I am aware, this is the only representation of the bison found in Indian carvings which remain to this day in the Eastern States.

Carved representations of the imprint of the foot of a turkey are found in many places on the rocks. One of the clans was known by the name of the Turkey-feet clan, or tribe, and it is possible that these frequent representations of the track of a turkey on the rocks represent the occupation of the spot by this clan, or contain a record of the visit of the clan from time to time to this spot. When the river was very low, the water at this point along the reef was deep, and I have no doubt that in periods of great drought the Indians resorted to this pool to fish. An abundant supply of fish is found there even to-day. It must have been a favorite fishing-resort.

Some of our friends attach great importance to these curious carvings found upon the rocks. They look upon them as historical records. I wish to say that I have no idea that they embody historic records. I picture to myself a tribe of lazy Indians camping on the edge of the river, engaged in fishing and hunting, and amusing themselves in their rough way by depicting things on the smooth surface of the stone with a harder stone. These things have just the same amount of significance as the carvings made by men to-day upon the smooth bark of the woodland beeches. They speak of an idle hour and the outgoing of the pictorial instinct,

which exists in all men. I cannot see anything more important than that. Nevertheless they are highly interesting as coming from the hands of men whose race is extinct in the region.

The Algonkian Linguistic Stock.

BY

ALEXANDER FRANCIS CHAMBERLAIN, CLARK UNIVERSITY,
WORCESTER, MASS.

An appeal for the study of the Algonkian tribes of North America and their languages may, perhaps, be made to this Congress without exaggerating too much their importance as compared with the other great Amerindian peoples. The Algonkian is one of the most widely extended of the linguistic stocks of this continent. Members of it were found from Labrador to South Carolina, and from the confluence of the Ohio and the Mississippi northwesterly to the base of the Rocky Mountains. The Creek of Manitoba and the Canadian Northwest and the closely related Naskopi and Montagnais of Labrador; the Micmac and allied tribes of Nova Scotia, New Brunswick and Maine; the Mohegans, Massachusetts, Pequots, Narragansetts, and various subordinate tribes of New England and part of New York; the Lenapé and confederate peoples of New Jersey and Pennsylvania; the Nanticoques and Powhatans of Maryland and Virginia; the Shawnees to the southwest; the Ojibwa, Ottawa, Pottawattomi, Sacs and Foxes, Menomini, and minor tribes of the Great Lakes and the adjoining regions; the Illinois, Peoria, Piankashaw, Kaskaskia, etc., further south and west, and to the northwest, nearing the Rockies; the outliers of this stock, the Arapaho, the Cheyenne, and the federated Blackfoot tribes,—all these peoples of varied history and habitat belong to this stock. The extent of its habitat and the wanderings of its members make it of interest not only to the student of comparative philology but to all scientists concerned with the effects of changed environment and contact with other peoples upon primitive art, industry, religion and social institutions. The Gluskap of the Micmac tribes, the Manabozho of the Ojibwa, the Wisaketchak of the Crees, and the Napi of the Blackfoot are all examples of the ramifications of a central figure in the mythology of a widely distributed primitive people. The

western Algonkian tribes of the plains, the Cree-Ojibwa of forest and lake-land, the sea-loving Micmaes, the multitude of tribes from New England to the Carolinas with their many alliances and confederacies, which political combinations were developed on a larger scale by the more powerful nations between the Great Lakes, the Ohio and the Mississippi, exhibit phases of social development worthy of special study. The spread of certain plants such as maize and tobacco, as revealed by their names, suggests a certain general agricultural consciousness for the whole stock. As compared with the Cree-Ojibwa and the Massachusetts-Lenapé-Virginian, the Micmac, in the east, offers certain linguistic peculiarities (phonetic and lexical) suggestive of race-contact, as does also the Blackfoot in the extreme west, which appears to be the most metamorphic of the Algonkian dialects, while according to the latest observer (Kroeber), Arapaho, seeming very much removed from the typical Algonkian, is so chiefly through regular and consistent phonetic changes, and certain grammatical specializations. Cheyenne, the other most specialized form of Algonkian speech, is more akin to Ojibwa than to Arapaho in many respects.

The Algonkian stock is of importance again because of its large contact with other stocks and its massive relations with the whites. The Micmaes and Naskopi have come into contact with the Beothuks and the Eskimo; both in the north and the south there has been an Iroquoian *enclave* in Algonkian territory; in the northern Mississippian region, Algonkian contact with the Siouan stock took place, and to the south with Caddoan, Muskogean and other tribes; in the northwest the Crees came into close contact with tribes of Athapasean stock, while at the base of the Rocky Mountain the Blackfoot warred and sometimes combined with the Kootenays. Occasional forays and trade ventures led them even further than these relations would indicate. Hence the history of the Algonkian stock involves the consideration of that of many other Amerind tribes. For the whites, the Algonkian peoples have acted as name-givers to many other stocks and tribes. The Athapasean, Eskimo, Siouan, and perhaps also the Iroquoian (Hewitt) and Muskogean (Gatschet) bear names of Algonkian origin. The same is true of tribes like the Assiniboin, Chipewyans, Mohawks, many of the Siouan peoples of Virginia (Tooker), and perhaps the Pawnee, etc.

The Algonkian stock has made a greater impression upon the

intruding Aryan north of Mexico than any other aboriginal people. It was people of this stock that the French and the English first met both to the north and to the south. Powhatan, Pocahontas, King Philip, Pontiac, Tecumseh, Blackhawk, whose martial deeds, romance, and strategy, have so appealed to our historians, novelists, dramatists and poets, were all of Algonkian lineage. The names of rivers and lakes, mountains and valleys, towns and cities, of Algonkian origin, dotted over the maps of Canada and the United States, exceed by far those contributed to our topographical nomenclature by any other stock. Moreover, of the provinces and districts of the Dominion of Canada, Quebec, Manitoba, Assiniboia, Saskatchewan, Athabasca and Keewatin, and of the States of the Union, Massachusetts, Connecticut, Michigan, Wisconsin, Iowa, Illinois, Mississippi, at least, bear Algonkian names.

The wide extension of the Algonkian stock has caused it to contribute words to the vocabularies of not a few other families of speech. It furnished (through trade relations) a few words to the old Mobile jargon, spoken on the shores of the Gulf of Mexico, and, on the other hand, a few also to the Chinook jargon of the north Pacific coast. But by far the most substantial contribution of this sort has been made to the spoken and written English of North America. As the present writer has elsewhere shown, this Algonkian element, embodied in the language of their conquerors and supplanters, amounts to more than 130 words, reaching out into many branches of psychic expression, and including a large number of names of animals and plants. Some of these may be mentioned here to indicate the real value of this Amerindian contribution to the vocabulary of our common English tongue: Bayou, Carcajou, Caribou, *Caucus*, Chipmunk, Hickory, Hominy, Manito, Maskinonge, Moccasin, Moose, *Mugwump*, Pemmincan, Persimmon, Powwow, Raccoon, Sachem, Skunk, Squash, Squaw, *Tammany*, Terrapin, Toboggan, Tomahawk, *Totem*, Tuxedo, Wampum, Wapiti, Wigwam, Woodchuck, etc.

Of these words several have passed into the languages of civilized Europe without their aboriginal derivation having been suspected. To have furnished to a tongue like modern English these four expressive terms alone—*Caucus*, *Mugwump*, *Tammany*,

Totem—is sufficient to have immortalized these Algonkian Indians.

To the Algonkians, also, the white man owes lacrosse, tobogganning, and (more than to any other people) canoeing, besides numerous devices of primitive industry and household economy that have passed over unnoticed from the old tenants of America to the new. Some minor ideas in agriculture have also been adopted, while hunting and fishing still lay their yearly tribute upon these Indians.

Surely then these people deserve our attention no less than some of the races of classic antiquity.

Ressemblance entre les civilisations Pueblo et Calchaqui.

BY

JUAN B. AMBROSETTI, MUSEO NACIONAL, BUENOS AIRES.

Messieurs:—À la dernière séance du Congrès des Américanistes qui a eu lieu à Paris, j'ai donné une brève esquisse de ce que nous appelons la civilisation Calchaquie.¹

Dans ce mémoire j'indique les bornes de cet ancien peuple et les traits les plus caractéristiques qui le sépare des civilisations environnantes, surtout de la Péruvienne.

M. le docteur Francisco P. Moreno, directeur du musée de la Plata, déjà en 1890 dans une brochure² signala la frappante ressemblance entre les calchaquis et les pueblos du S. O. des États-Unis.

En 1891, M. Lafone Quevedo fut aussi étonné de la ressemblance entre les Zemes pueblos et les calchaquis.³

En 1893, M. le docteur Hermann Ten Kate, si connu parmi les américanistes, publia un mémoire⁴ dans lequel il signala les plus importantes analogies par lui observées entre les deux civilisations Pueblo et Calchaqui.

Je vous répéter ici ses conclusions: "Ayant eu le rare privilège de voir, *in situ*, des restes des civilisations indigènes d'Amérique à leurs limites extrêmes, les plus boréales et les plus australes, dans le sud ouest des États-Unis et dans le nord ouest de la République Argentine, j'ai pu constater plusieurs parallèles entre les civilisations dite Shivui (Zûni) et celle dite des Calchaquis.

Quoique ce mémoire ne se prête pas à une étude comparée, je veux indiquer rapidement les parallèles les plus importants qui m'ont frappé tout d'abord au Musée (de la Plata), et ensuite, chemin faisant, durant notre expédition.

La civilisation Calchaquie, tout en admettant son origine péruvienne ou incasique, est véritablement ce que Cushing a appelé un *desert culture*.

La grande analogie des conditions physiques du pays Calchaqui

avec le sud ouest a causé une ressemblance dans les produits de l'activité humaine. Les différences entre ces deux civilisations, peuvent, en partie au moins, être attribuées aux différences dans la configuration et les produits du sol, ainsi qu' au climat.

Quoiqu' il en soit, ce qui pour moi est incontestable, ce sont certaines analogies mythico-religieuses qui ont dû exister entre ces deux populations américaines.

En ce qui concerne la situation et la division de leurs villes, j'ai des raisons pour croire que les calchaquis suivaient le système mythico-sociologique septenaire à l'instar des Shivuis et des anciens péruviens.

J'ai déjà parlé de la similarité des pétrographies, en partie au moins, apparemment ritualistiques.

Passons aux fétiches. J'ai vu des fétiches calchaquis en pierre représentant des animaux qui offraient une ressemblance frappante avec ceux que nous avons exhumés, M. Frank H. Cushing⁵ et moi-même.⁶

Seulement les fétiches calchaquis sont généralement plus grands.

J'ai trouvé plusieurs fois parmi les objets calchaquis, de petites ardoises travaillées absolument de la même manière que celles provenant des ruines du sud ouest et à celles encore en usage parmi les Shamans à Zuni.

Chez les calchaquis, les turquoises et les coquilles marines travaillées paraissent avoir été aussi estimées comme ornement que chez les Shivuis anciens et modernes. La présence des colliers de cette matière sur les cadavres en fournit la preuve.

Très souvent j'ai constaté sur les pièces de poterie, que nous exhumons des *huacas* ou que j'achetais, des trous généralement ronds ou des cassures apparemment intentionnelles. N'y attribuant pas d'importance au premier abord, je fus frappé de la fréquence de ces trous-et des cassures, et, en y prêtant mon attention de plus en plus, j'obtins la conviction que nous avions là, quoique faisant quelques variations, des cas de: "tuer la poterie," des Shivuis.

Quoique la forme de la poterie des calchaquis soit généralement différente de celle des Shivuis, il y a cependant aussi de grandes ressemblances, notamment parmi les petites pièces.

La couleur et la décoration, évidemment symbolique ou idéographique, offrent cependant assez souvent de grandes analogies.

Les calchaquis possédaient également des connaissances métal-

lurgiques, mais beaucoup plus avancées que les anciens Shivuis. Il est probable cependant que les premiers avaient les péruviens pour maîtres, et que c'est de ceux là qu' émanent originairement les belles cloches, les grands disques, les haches, etc., en cuivre, dont le musée possède des spécimens.

Quant aux armes, les haches en pierre des deux populations sont dans leurs formes, autant que je sache, absolument identiques. Il en est de même des *bolas* en pierre, car nous savons que dans le sud ouest américain les *bolas* étaient également en usage."

Plus tard, dans un autre travail, le même Mr. le docteur Ten Kate, s'exprimait ainsi :⁷

"En quittant l'Amérique du sud pour chercher plus au nord des affinités ou des ressemblances, notre pensée s'arrête, involontairement tout d'abord, au Mexique Central, puis aux plaines et vallons de l'Arizona et du Nouveau Mexique. Ce sont, avant tout, les crânes des sépultures anciennes de Santiago-Tlaltelolco décrits par M. Hamy⁸ qui, par leur morphologie générale, leur forte brachycéphalie et les indices élevés de l'orbite et du nez, rappellent certains types de notre série calchaquie.

L'usage d'enfermer les morts repliés dans de grands vases en terre était également suivi par cette ancienne population, usage qui, comme le fait remarquer M. Hamy, était avec de nombreuses variantes, adopté par une foule de tribus américaines, sans indiquer pour cela, nécessairement, une affinité ethnique.

Quant aux Suladoans et Cibolans représentants de cette ancienne civilisation, dite des Shivuis, que j'ai tant de fois rapprochée des Calchaquis, il ne me reste qu' à rappeler leur brachycéphalie excessive, leur petite taille, leurs os hyoïdes aux éléments libres, les analogies mythico-religieuses et mythico-sociologiques enfin qui ont dû exister chez ces deux civilisations indigènes d'Amérique à leurs limites extrêmes, et que j'ai déjà résumées."⁹

Voilà, messieurs, les antécédents de ma tâche.

Ayant voyagé beaucoup dans toute la région Calchaquie pour y faire des études d'archéologie, j'ai eu la même impression, comparant ce que j'avais vu et lu dans les magnifiques publications du Bureau of Ethnologic et du Smithsonian Institution.

Dernièrement, les travaux de M. Walter F. Fewkes sur son Expedition Archéologique de l'Arizona,¹⁰ ont confirmé mes impressions.

Un de mes premiers travaux fut d'investiguer l'influence péru-

viennne de la période incasique, influence trop tenue en compte par mes chers collègues et qui étant vraie, nous donnerait pour résultat que la civilisation calchaqui n'est qu' un simple reflèt de la péruvienne.

Heureusement les mêmes auteurs de la période coloniale nous fournissent la preuve que cette influence, et surtout la prétendue domination incasique, n'a pas existé,¹¹ les Incas n'ont jamais dépassé les limites des calchaquis, et leurs armes ont toujours échoué à la quebrada de Humahuaca; pent être que quelqu' un aurait pu franchir par un autre chemin ces limites, comme parait le démontrer la pictographie de Cara-Huasi,¹² mais son séjour dans le pays a dû être bref et seulement temporaire. Résolu ce problème qui nous fait écarter aussi la possibilité de l'imposition de la religion solaire, il nous fallait chercher et investiguer l'ancienne religion calchaquie comme base de nos études comparatives.

Les anciens chroniqueurs nous donnent le fil pour nous débrouiller la question. Ils nous disent que les calchaquis adoraient la foudre, et ils nous parlent des petits morceaux de bois emplumés comme offrandes, qui seraient des *pahos* comme ceux des pueblos; on les aspergeait avec du sang des Llamas; on offrait de la farine,¹³ nous avons encore l'usage d'offrir de la farine, qu' on appelle *Chaclion*, dans certains endroits, vrais Shrines ou Llastay, pour avoir une heureuse chasse.¹⁴

Ma découverte de l'emploi et surtout de l'ornementation des fétiches Zoomorphes actuels dans les vallées occidentales de Molinos, dans la province de Salta, qui offrent une ressemblance frappante avec ceux publiés par Cushing des Zuñis¹⁵ et les petits fétiches ornitomorphes anciens, semblables à celui publié par M. Fewkes de l'Arizona.¹⁶

La curieuse coiffure de certains idoles que j'ai signalé comme égale à la coiffure des jeunes filles Mokis, surtout du magnifique vase de la collection Quiroga qui, je crois, représente une véritable flûte Maiden?¹⁷

Les grandes pipes en terre cuite, assurément d'un caractère cérémonial, qu' on ne trouve pas au Pérou.¹⁸ La fréquence de la représentation du serpent, du crapaud et des oiseaux dans les poteries, ainsi que la croix.¹⁹

Certaines Cérémonies et superstitions communes au Mexique et au Sud Oest, comme celle de baigner les veuves après la mort

de l'époux, la crainte de la perte de l'esprit ou de l'âme des enfants, etc.²⁰

Les vases, assurément cérémoniaux,²¹ et les assiettes en basqueterie, véritables *coiled basket trays*, que j'ai l'honneur de présenter à mes distingués collègues, comme une des trouvailles des plus intéressantes de mon pays, et qu' à présent on ne trouve nulle part, excepté dans les villages Moki;²² et, en dernier lieu les bals masqués qui encore ont lieu dans un but religieux dans les villages très reculés de la province de Jujuy²³ et qui ont eu lieu dans les anciens temps dans toute la contrée calchaquie, comme semblent le démontrer certains petites figures en terre cuite, certains gravures sur les courges,²⁴ et aussi les trouvailles faites à San-Juan de masques en cuir et á Catamarca de masques en pierre.²⁵ Danses masquées, que Mr. le docteur Moreno a signalé, sont encore en usage chez les araucaniens et les fruegiens.²⁶

Tous ces éléments réunis nous donnent bien le droit de chercher dans les vieux mythes de la partie occidentale sud américaine, laquelle pouvait s'appliquer aux calchaquis. L'ancien mythe, pré-incasique de *Catequil* et de *Piguerao*, les deux frères jumeaux, c'est celui que nous croyons devoir attribuer aux calchaquis.²⁷

Au fond ce n'est que l'ancien mythe des Pueblos; les deux frères *Massewa* et *Ai-ai-uta*, qu'on rencontre parmi les Zuñis et les Mokis. Ce mythe, comme je crois l'avoir démontré, se rencontre aussi parmi les araucaniens personifié en deux frères qui sont les héros de la légende du vieux Latrapai.

Les araucaniens sont pour moi le rameau le plus austral de ces indiens brachycéphales de l'ouest de l'Amérique a qui appartiennent aussi les calchaquis.²⁸

Dans mes divers mémoires déjà publiés, je me suis étendu largement sur ce topique, et je crois être dans le vrai chemin. Tous ces faits frappants commencent à se relier, et maintenant il me semble que nous pouvons voir clair dans le sentier parcouru par cette grande invasion des peuples dont il ne reste aujourd' hui que les deux bouts; une civilisation éteinte: les Calchaquis dans le Nord Oest de l'Argentine, en Sud Amérique: et une civilisation prête à s'éteindre dans le Nord Oest des Etats-Unis, dans ce continent du Nord. Montesinos, dans ses très intéressants mémoires historiques du Pérou, nous parle bien des fois des grandes invasions des guerriers du Tucuman (les Calchaquis),

au Pérou, guerriers qui ont bouleversé le vieil empire plus d'une fois.²⁹

Les Incas, postérieurement, n'ont pu déraciner au Pérou le culte de Catequil, et ils ont dû l'adjoindre à son panthéon. Et, s'il faut relier mieux encore ces deux mythes, nous dirons que nos héros ont eu pour père, à Atachuchu, le *père des jumaux*, ou, selon d'autres auteurs, le *père des pommes*.

Nous trouvons cette même personification parmi les Zuñis avec le même nom: Atachu (le père de tous), être suprême, selon Mr. Cushing.³⁰

Maintenant ma tâche est pour le moment finie; j'ai voulu rapporter au sein de ce congrès, un des problèmes les plus intéressants de l'Américanisme; relier deux civilisations avec deux points de repaire plantés chacun dans une des parties opposées de cet énorme continent.

À présent la tâche est de continuer les explorations et de publier les matériaux réunis et à réunir, pour pouvoir tracer la route suivie par les anciennes invasions, ou émigration des peuples, et étudier son action dans les civilisations qui ont poussé après dans leur chemin, ou qui se trouvaient sur leur passage. Une étude approfondie et un corpus du grand matériel de pétroglyphes de la région ouest de l'Amérique pourrait nous donner des lumières à propos.

NOTES.

¹ La civilisation Calchaquie-Région préandine des provinces de Rioja, Catamarca, Tucuman, Salta et Jujuy (République Argentine.) Congrès International des Américanistes XII Section. Paris. pag. 293.

² Francisco P. Moreno. Exploracion Arqueológica de la provincia de Catamarca. Rev. del Museo de la Plata. Tomo I, pag. 199 y sig.

³ On Zemes from Catamarca. American Anthropologist for October, 1891.

⁴ Rapport sommaire sur une excursion Archéologique dans les provinces de Catamarca, de Tucuman et de Salta. Revista del Museo de la Plata. Tome V, pag. 329 y sig.

⁵ Second Annual Report of the Bureau of Ethnology, Washington, 1903.

⁶ Internationales Archiv. für Ethnographie III 1890.

⁷ Anthropologie des anciens habitants de la Région Calchaquie. Anales del Museo de la Plata 1896, pag. 62.

⁸ Anthropologie du Mexique pag. 15 et suiv. pl. I.

⁹ Rapport sommaire etc.

¹⁰ Archeological Expedition to Arizona in 1895. Bureau of American Ethnology. 17th Report, Part II, pag. 527 y sig.

¹¹ Ambrosetti : Los Incas no dominaron la Region Calchaquie. Notas de Arqueología Calchaqui, N° XVIII. Boletín del Instituto Geográfico Argentino T. XI.

¹² Ambrosetti : Las grutas pintadas y los Petroglyfos de la provincia de Salta. Boletín del Instituto Geog. Arg. T. XVI.

¹³ Lafone Quevedo : Tesoro de Catamarqueñismos. pag. 87. voz. Chac-lion. Anales de la Sociedad Científica Argentina.

¹⁴ Historia de la conquista de la Plata y Tucuman por el P. José Guevara. T. I, Impreso en Buenos Aires en 1882, con una introducción por D. Andrés Lamas.

¹⁵ Ambrosetti : Fétiches animales. Notas de Arqueología Calchaqui, N° XXVI. Bol. Inst. Geog. Arg. T. XX.

¹⁶ ib—ib fig 210 pour comparer avec la fig h. de la Planche CLXXIII de Mr. Fewkes op cit. et les fig N°s 177898. Stone birds de la Plate III du travail de Mr. Fewkes dans le Smithsonian Report 1897, page 605.

¹⁷ Ambrosetti : El Peinado y el Tocado. Notas de Arqueología Calchaqui, N° XIV. Bol. del Inst. Geog. Arg. T. XIX.

¹⁸ Ambrosetti : Fumaron en pipa los Calchaquies ? Notas de Arqueología Calchaqui, N° XXIX. Bol. del Inst. Geog. Arg. T. XX.

¹⁹ Quiroga Adán : La Cruz en América Buenos Aires, 1901.

Ambrosetti : El Símbolo del Suri : El Símbolo del Sapo. Notas de Arqueología Calchaqui, N° XXIV y XXI. Bol. Inst. Geog. Arg. T. XX.

²⁰ Ambrosetti : Rastros Ethnográficos comunes en Calchaqui y México. Anales de la Sociedad Científica Argentina T. LI, pag. 5 y sig.

²¹ Ambrosetti : Algunos vasos ceremoniales de la Region Calchaqui. Anales del Museo nacional de Buenos Aires. T. VII, pag. 125 y sig.

²² Ambrosetti : Objecto de Basketeria comun á Calchaqui y Los Pueblos en el Boletín of The American Museum of Natural History of New York.

²³ Ambrosetti : Antijüedades Calchaquies. Datos Arqueológicos sobre la Provincia de Jujuy en Anales de la Sociedad Científica Argentina. T. LIV.

²⁴ Ambrosetti : El Peinado y el Tocado etc. fig. 98-100. T. XIX. Bol. Inst. Geog.

²⁵ y Aguiar Desiderio Segundo : Los Huarpes. Primera Reunion del Congreso Científico Latino Americano T. V, pag. 290. En el Museo de la Plata se hallan las Mascaras de Piedra.

²⁶ Moreno : Viage á la Patagonie australe. pag. 98. y Exploracion Arqueológica de la Prov. de Catamarca. Revista del Museo de la Plata. T. I, pag. 214.

²⁷ Ambrosetti : Divinidad Catequil. Notas de Arqueología Calchaqui, N° XII. Bol. Inst. Geog. Arg. T. XVIII.

Ambrosetti : El Sepúlcro de la Paya en Anales del Museo Nacional de Buenos Aires. T. VIII, pag. 119 y sig.

²⁸ Hachas votivas de Piedra (Pillau Toki) y datos sobre Rastros de la Influencia Aarauona Prehistórica en la Argentina. Anales del Museo Nacional de Buenos Aires. T. VII, pag. 93 y sig.

²⁹ Extracto de los memorios Antiguas Historiales del Peru en Notas de Arqueología Calchaqui, N° XII. Bol. Inst. Geog. Arg. XVIII.

³⁰ Zuñi Fetiches. Second Annual Report of the Bureau of Ethnology, 1880-81.

Anthropological Information in Early American Writings.

BY

JOSEPH D. MCGUIRE.

There is scarcely a work relating to early European contact with the Indian which does not contain references valuable to the anthropologist. To avail one's self of this requires great labor, owing to its being scattered through many volumes, as the writer has experienced in his studies of the evolution of tools and of their uses. Early publications supplied information which would now be chiefly contained in popular magazines and the daily press.

Modern studies in Anthropology and Archeology give new interest to this material as an aid to the interpretation of the manners and customs, myths, ceremonies, arms, implements, etc., of the Indians, compared with similar things among other races.

These works are so numerous that one must spend years in research before he can be satisfied that he has made proper investigation of the authors who have referred to this subject. Such material should, however, be within reach of all. The writer has made a beginning which it is hoped may be continued to completion. Through the courtesy of the Bureau of American Ethnology and its officers, and by use of its facilities, an amount of data has been gathered sufficient to demonstrate the value of the work. To obtain the best results there should be made a collection, on library cards of uniform size, of extracts from publications which refer to first or early contact with the Indian. Their headings should comprise the subject-matter of the card, the period to which it relates, the locality referred to, and the author quoted, and be numbered. The body of the cards contain the subject-matter, and will average from 75 to 100 words each. The title of the work quoted, its place of publication, date, page and volume completes the card. As it is impossible to confine

the cards to a single subject they should be indexed by card numbers to make them readily accessible to all.

The discovery of America was the beginning of a series of voyages continuing over three centuries, during which Spanish, Portuguese, Dutch, French and English struggled for mastery. The products of the early expeditions were preyed upon by pirates of all nations, chiefly French and English, who often landed and ravaged the settlements. The immense wealth of the country only became known after centuries. Products of the forests, of the mines, and of the waters amounting to many millions of ounces in value yearly taken during the first half century after the discovery, even followed later by agricultural products; the latter period was supplemented by the fisheries and fur products, each increasing in yearly value. The fabulous wealth obtained led to enormous immigration and great extravagances among the colonists, which were considered so pernicious as to be limited by royal decree.

Native trade was first by exchange of presents of small value from the Europeans, for metal objects, trinkets or food. This source becoming exhausted the natives themselves and their lands were partitioned among the Europeans. Insufficient food and ignorance of the effects of the changes thereby wrought in native life led to disease and terrible mortality. This in its turn was succeeded by a period of slave hunting, when the dog and the branding iron were employed to catch and mark slaves, to fill the gaps caused by deaths due to ignorance and cruel treatment of those already enslaved. Overloading native carriers, owing to the absence of pack animals, was one of the chief causes which led to restrictive laws being passed by the Spanish council of the Indies, which was always solicitous in protecting the natives, but these laws were ignored whenever possible. Accounts of the numbers of dogs, hogs and slaves taken along in early expeditions cause astonishment. The first slaves were Moors from Northern Africa; these were soon added to by the products of the African slave trade, which assumed enormous proportions as the native supply became exhausted.

It is notable how often the negro is referred to in descriptions of early travels, and there are many accounts of cruelties inflicted on him which drove him to the woods. These descriptions are scattered through all the languages of Europe, and early American

publications are full of relations of struggles for supremacy between the early settlers on both continents, in which the natives are invariably shown to have been made a convenience.

Supremacy in commerce to the European was the common cause of war, while the native found a more important cause in encroachments on his hunting grounds.

With the increase of foreign population, publications multiplied; authors were usually men of intimate acquaintance with the native and had lived with him for years; many of the most interesting accounts are those of members of holy orders, to whom the country had become a second home. Many early publications have been liberally quoted by authorities, but comparatively little has been accomplished in systematic compilation of references. The vast territory extending over one hundred and thirty degrees of latitude contained but a single type of individual, though they varied in development from lower savagery to higher barbarism, the larger part nomads, though there were others of sedentary habits, having governmental organization. These people were living in a pure age of stone, and used implements of a primitive type.

The colonists found a simple and docile race almost without exception; the native at first considered the European as a superior creature whose rapacity, however, soon stamped him as an oppressor, war being the natural result, which was waged bitterly. It is difficult to determine whether the arms of the whites or intoxicants sold by them destroyed most lives.

The Amerind survives in certain localities, and his manners and customs are commonly modified by foreign influences. Yet in rare instances there remain communities, the study of which has produced results of extreme value in understanding the development of the human race.

Environment has influenced enormously the lives of all peoples, and is especially notable where fish are abundant, or skins are common, and in the region of the red wood and birch bark, and where the buffalo, elk and moose roam, where there are shell fish and crustacea, acorns or nuts, fruit, natural or cultivated, of corn, tapioca and cocoa; in the country of the llama, and of certain bird abundance, both north and south. Where food was scarce population was never dense.

The study of mounds, terraces, shell heaps, enclosures, stone

heaps, stone graves, palisaded towns, ball grounds, cisterns and ponds, highways, obelisks and posts give rise to discussion. Who made and used them? What is their origin? Can they be traced to other countries, where they possess similar remains, or are they the results of development from a lesser to a higher stage of culture? To the first settler the native was like any other obstacle, and was removed or made use of, as occasion required; he was an ally in war, whose skill in the canoe, whose knowledge in woodcraft, in signaling by means of smoke and other devices, were valuable aids in a campaign; when, however, this ceased the native, especially in Latin America, was treated with great severity, leading often to disastrous results. The value attaching to early publications varies with different authors, and can only be estimated by comparing them with others referring to the same subject. Care must be taken where natives refer to European oppression, or where the European refers to native treachery and dishonesty.

Comparative studies concerning the development of the human race are necessarily aided by references to primitive conditions found to exist at the time of first, or early contact with the natives. Nowhere, so well as here, is there as valuable a field of Anthropological research. Throughout the whole of the Americas, products are found of man's primitive handiwork, not dissimilar to objects of like form found on other continents, which were used by the most primitive races; these consist of objects of stone, or of bone, shell, pottery, skins, wood or vegetable fiber, and at times even of metal. Such objects are found on the surface, in quarries, workshops, or caves, rock shelters, natural and artificial, in brush huts, skin tents, bark dwellings, pueblos, communal houses, at times several stories high, often containing oven-like subterranean rooms for ceremonial gatherings of societies having formal initiations. These dwellings and places of worship are usually oriented according to the cardinal points; they are governed by the direction of prevailing winds, or the rising and setting of the sun. They lived in settlements of great extent, composed of pretentious structures of dressed stone or stucco, and temples of great size having plazas and market places, grounds for holding fairs and ball games, foot races and feasts. Such people are described as having organized society and government of a most elaborate character, who recognized distinction in rank, whose old men

held councils, sent and received messengers, often those having ambassadorial rank, whose agreements bound the actions of confederacies. During formal deliberations with strangers the laws of hospitality were usually strictly observed. Smoking on such occasions was part of the ceremony on the northern continent, whereas in the south human sacrifice took its place. Their dances were of various characters, often containing theatrical features, though they were usually of a serious religious nature. Their deliberations were accompanied by speeches, the results of which were usually made public. Runners were despatched, who, in case of war being decided upon, notified the enemy by certain well known symbols that hostilities had begun, and were conducted with terrible savagery, though, where possible, only men were killed; the lives of women and children being preserved, even the men were often enslaved and not killed. Certain colors were emblematic of war, other colors of peace, and yet others of rejoicing or mourning. The dead enemy was scalped, the living, as a rule, tortured upon the return of the war party. In the south, tribes held other tribes in subjection and required the payment of tribute as the price of a *quasi* freedom.

Aboriginal art in stone, in carving, in painting and in wood-work was thoroughly typical and of no mean order, the native well knew the sources of supply, as well as the artificial fracture of stones, now first beginning to be recognized as existing. Woven fabrics are known to have been most varied, as was plaiting, netting, wicker-working, in house-building, in erecting weirs and traps, in all of which the Amerind appears to have reached the limit of available material, as he had done in making string and cords, and in the art of knotting and mat-making, and lashing and in making fibers so fine as at times to approach thread in size. Woven fabrics, in certain localities, attained great excellence in fineness and ornamentation. Feather work, bird skins and painted hides constituted material for clothing, which, however, varied from the breech cloth, to complete covering, including the plumed head dresses.

Arms were commonly primitive, though there are examples of unusual types, such as the bolas and the throwing-stick, as well as the blow gun, which was also used in certain of the Pacific Islands; slings are often mentioned, though the lasso appears to

be of Spanish origin. However, any of these objects may well owe their existence to independent discovery.

There are innumerable problems yet to decipher, and most of them may be simplified by close study of early publications. Among the many questions relating to primitive man in America may be mentioned the origin and wanderings of the numerous nomadic tribes, their use of implements and a comparison of their manners and habits with those of primitive races in Europe and elsewhere. After a period of over three centuries of a contrary belief, modern students have shown the Indian to be an intensely religious man, something more than merely superstitious. By religion I would signify, as defined by J. N. B. Hewitt, a system of words, acts or devices, or a combination of these employed to obtain welfare, or to avoid ill-fare through the use, exercise or favor of the occult power of another body or bodies. Everything on earth or in the air or water, all visible and invisible things, tangible and intangible, seen, heard, felt, tasted or smelt had to be reckoned with and propitiated. The masks of the dancers, as stated by Dr. J. Walter Fewkes, among the Hopi were parts of ceremonial costumes on particular occasions, and even during ceremonies which were conducted with well defined and elaborate rituals, where the officiating individual became the mouthpiece of the God. Such masked dancers are described by early historians as "intimate converse with the devil," as "idolatries," the worship of images not recognizing their now well known symbolism. Dreams (which were actual happenings), feastings, prayers, dancing, smoking and even games of chance, formed part of one or the other sacred ceremony. The spirits to whom the petitions were offered were good or bad, powerful or weak, could hurt and be hurt, and even rewarded and punished, as occasion warranted. The elements, plants and animals are all people among certain tribes of the northern, if not on both continents; they talked among themselves and were human, their talk being understood by certain chiefs and priests, and even at times by private individuals. Animals were gods in one locality, in another were fair game, which allowed itself to be captured by his brother man and conversed with him in his sleep, but his meat and bones had to be treated ceremonially, or he would stop surrendering himself to the people for food.

World quarters were designated at times by particular animals

representative of the cardinal points; at other times these points were represented in colored sand, of feathers or flowers, or of corn ears; the savage always appreciated the attractiveness of striking colors, the most brilliant examples of this being evidenced by exquisite mosaic work.

The medicine man, who was always a priest, is commonly ridiculed for his treatment of disease, through exorcisms, suckings and blowing, by cauterization, by fire or purging, though such treatment of the disease compared favorably with that of the civilized physician of the 17th century, who prescribed tobacco or the left hind foot of a moose to cure 700 or more diseases.

References to the Amerind as a cultivator, provider and preserver of food are numerous. Corn was easily the plant most commonly grown, the uses to which it was put being numerous, but tobacco, pepper, cocoa, maguey, gourds, melons, etc., are often referred to. They were prepared in many ways and served for many purposes. Animal food, including birds and fishes, and shell fish, played an important part in primitive economy. These products were dried in the sun, buccaneered and beaten into pemmican. The natives dried the oyster, clam and crustacea, as well as the nut and acorn, and stored water in artificial ponds and jars. The many allusions to "fowl" and "fowl of the country" probably refer to the now well known turkey. While many things were eaten raw, cooking was done in various ways, including heating water in vessels with hot stones, baking in mud, etc. Superstitions attached to certain foods and we learn that some were tabooed. Little is written concerning the seasoning of food, though it is stated that they used ashes in some places, and in others salt or peppers. The Amerind appears to have been Anthropophagus in all localities, the eating of human flesh being too general to be attributed to ceremony, except as his whole life was ceremonious.

His life stamps the Indian, with few exceptions, as a highly intelligent individual, though leading a wandering life and often exposed to suffer from hunger. His camping place was always carefully located near fresh water and neatly sheltered from prying eyes, and, where possible, so located as only to afford approach by paths susceptible of ready defence.

Time was measured by the sun and moon, and nights; by seasons of cold and heat, by the ripening of fruit, the mating or

migration of birds, animals or fishes. Raids into an enemy's country were made so as to allow of an attack at the period of the full moon, either in the night or at early dawn, when least expected. There are references to irrigation though planting appears to have been commonly done on bottom lands, cleaned by means of fire or by the overflow of rivers. Seed was dropped into holes; in places a few weeds were pulled and nature did the rest. There was much ceremony connected with the gathering of the ripened crops. In places the whole community took part, or particular societies, or single individuals. The principles of storage were well known; some storehouses were for the whole community, others belonged to fraternities or to chiefs, or individuals. They varied in size from jugs or baskets to caches and structures holding a hundred bushels or more. Carriers accompanied merchants, hunters or war parties, and food was cached for the home journey.

Clothing and ornamentation varied according to locality, some individuals being naked, dyed perhaps or painted; tatooing is so often referred to, accompanied by references to distinguishing marks on the body, as to suggest its having at some period been a common custom. Individual stature and color appears to have varied, as did hair-dressing in style, which differed among men and women, as did that of ornamentation in general. The commonest material used in ornamentation were stone, shell, bone and pottery; wood and metal were also employed, as well as the pearls, though the latter were usually discolored by exposure to the fire.

References to the proficiency of the native in the use of his feet, to the wearing of the sandal and moccasin are as numerous, as they are to different musical instruments, which are said to have been employed and at times, give rise to question.

There was an elaborate code of social observances and requirements, often of the most complicated character established, the violations of which were severely punished. There were many classes referred to, but were more imaginary than real; their camps were, when ceremonially located, so arranged according to clans or families, as to be known to members of these clans, strangers to their inmates.

Among the American languages there does not appear evidence of relationship with any foreign tongue.

Authors show the Indian to have been skilful in the use of implements, and certain objects of elaborate form are by them commonly attributed to Indian origin, which there is little doubt were made with the tools of the whites; others refer to the Indian as being as far advanced in artistic skill as the European mechanic of the 17th century.

As hunter, warrior or fisherman the Amerind trailed his enemy or game and captured his fish with a skill seldom equaled by the whites. His arms were skilfully made and differed in their purpose, being pointed and bladed with suitable material. It is supposed he poisoned his weapons, though there is reason to doubt the accuracy of the belief, though stupefying drugs were used to catch fish. The hammer and flaking tool, shaped, often by the assistance of fire, almost any material worked by the native. We learn that they had many trades, and even tamed and domesticated certain birds and animals. They knew the use of the blowpipe and melted gold and silver and knew the most suitable woods for their many implements.

Polygamy was common and they had in places a regular priesthood. They had made great strides towards the discovery of an alphabet; they had a unique system of counting, and had developed a sign language spoken among tribes not speaking each others tongue. These people had developed quite a trade or system of barter, and though they had no currency, on the advent of the whites, glass beads, wampum and skins and tobacco became such, and even so recognized by legislative enactment. Ceremony and ceremonial observances accompanied birth, marriage, death and burial. They had markets and fairs, and officers who decided disputes arising in them. News was announced by town criers. Sedentary people made large statues, as the nomads did small ones. They were skilful in boat construction, and the management of it with the paddle, though there is doubt whether they used sails to their boats. The Spaniards palmed off glass on the natives who supposed it to be stone; but we early find the native palming off parrots of one kind for those of another on the Spaniard. Men and women each performed work suitable to their sex, the man being the one to provide, while the woman prepared the food and cared for the household matters.

It were easy to enumerate additional matters of interest in the study of Anthropology as developed by early writings and recent

investigations, but enough has been shown, it is hoped, to develop the value of systematic study in enabling man to study the development of the race.

(The use of the word Amerind is intended as an abbreviation of "American Indian.") This definition is given in view of the discussion raised by its use in the paper.

Archaeological Research in the Southern United States.

BY

CLARENCE B. MOORE.

During the past eleven years the writer has conducted archaeological research in the southern United States, covering the coast of South Carolina as far north as Charleston; the Savannah river to the head of navigation, and the Altamaha river, both in the state of Georgia; the entire coast of that state; the Tombigbee river in the states of Mississippi and Alabama; the Alabama and Mobile rivers in the state of Alabama; the St. Johns and the Ocklawaha rivers and much of the lake country in the state of Florida, as well as a very large portion of the coast of that state.

The first year was devoted to an examination of the shell-heaps of the St. Johns river, Florida, the remaining ten years to burial mounds and cemeteries in the region mentioned above, including a careful examination of the muck deposits of the southwest Florida coast and the Ten Thousand Islands, where the writer's late friend, Frank Hamilton Cushing, made his remarkable discoveries.

Full details of the writer's investigations have been published, mainly by the Academy of Natural Sciences of Philadelphia, in Volumes IX, X, XI, XII of its Journal. The present paper is a *résumé*.

Along the South Carolina coast results were meager. Large domiciliary mounds were present, but burial mounds were small and contained few artifacts, and no novel form of burial. Urn-burials, found by others, were seen, but none was met with by the writer. Earthenware was tempered with coarse gravel, forming the well-known "gritty" ware. The complicated stamp decoration predominated. On the base of a large domiciliary mound on Little island, Beaufort county, was an aboriginal structure 40 feet square, roughly speaking, made of what had been up-

right posts of wood, held together by intertwined vines or branches, the whole covered with clay on either side. These walls were somewhat over 4 feet in height. Presumably the roof of this structure had been of boughs, supported by posts. A skeleton of a child lay beneath the building, and one intrusive burial was found near the surface of the mound.

Along the Savannah river were few burial mounds of interest, though the Bureau of Ethnology once opened a notable one just below Augusta. There were large mounds of clay in the swamps which, seemingly, were domiciliary and places of refuge in high water.

The Altamaha river yielded small mounds with the bunched burial and with skeletons in anatomical order, which, as is usually the case in southern mounds, presumably had been buried after the removal of the flesh, but while held together by ligaments. At one point, about fifty miles up the river, were mounds having fragments of burnt and calcined human bones, sometimes in urns, covered by inverted bowls, sometimes placed on the ground and protected by an urn turned face downward.

At Darien, near the mouth of the river, were interesting mounds containing, beside the ordinary forms of burial, human remains under pens of wood, the only occurrence of this form of burial to come within the writer's personal experience.

The mounds of the Georgia coast were most interesting. Low mounds, as a rule, often much extended, they contained layers of shell and burials placed under masses of shell, including, sometimes, burials of dogs covered with shell, in little graves of their own. The forms of burial, besides the usual one, were: masses of calcined human bones, unenclosed; calcined bones on the sand, covered by inverted urns; calcined bones in urns capped with inverted bowls; uncremated bones in urns, sometimes protected by inverted bowls, sometimes not; and once the upper half of a skeleton of a woman placed in an oblong vessel, beneath which lay the remainder of the skeleton. Among the urn-burials cremation greatly predominated. The pottery consisted of "gritty" ware almost entirely, the decoration being the complicated stamp, as a rule, though from mounds near Darien came vessels with interesting incised decoration, two of which, bearing the plumed serpent, engraved and colored, highly conventionalized, is fully described by Prof. W. H. Holmes in his "Pottery of the Eastern

United States," brought out as the Twentieth Report of the Bureau of American Ethnology.

Many earthenware smoking-pipes came from the mounds, some in the form of human heads.

Copper was infrequently met with. In addition to fragments of sheet copper from various places, there was found a chisel of copper similar to one figured by the late C. C. Jones, in his "Antiquities of the Southern Indians," as coming from a mound of the Georgia coast.

The burial mounds of the Tombigbee river are small and uninteresting. In them were flexed skeletons, bunched burials and skulls buried alone. Cremation was not met with. Along the river were many large mounds of clay, probably erected as places of abode and of refuge in flood time. The Brasfield mound in Greene county is a notable one, oblong in shape with basal diameters of 168 feet and 200 feet. The diameters of the summit plateau are 105 feet and 135 feet. The height is 19 feet. The outlines of the mound are as sharp as though it were made but yesterday.

Aboriginal remains along the Alabama river are of deep interest. In the neighborhood of Montgomery, near the head of the river, are a number of interesting mounds, filled with burials of the ordinary form and having, among many other relics, a number of implements known as "hoe-shaped," which are in reality ceremonial axes. Along the river are cemeteries in which were unenclosed skeletons, bunched burials, etc., and also parts of skeletons, and single skeletons in bowls covered by other bowls inverted. In addition, there were in great vessels, covered by others inverted, plural burials, a new form, where two adult skeletons were together, and on one occasion, remains of several infants, four or five seemingly. These burials, with bones in place as found, as well as nearly all the objects found by us in the south, are on view at the Academy of Natural Sciences of Philadelphia. Cremation was met with but once on this river. The earthenware is shell-tempered.

The northwest Florida coast, where the writer's most recent work has been done, yielded mounds with the usual forms of burial, including the lone skull. These mounds had great deposits of vessels of earthenware placed for the dead in common, beginning often at the margin and continuing sometimes to the

center of the mound. These deposits were almost invariably on the eastern side of the mound, and lay in sand far darker in color than was the sand of the remainder of the mound. This sand, sometimes almost of inky blackness, which the writer has had subjected to chemical and microscopic tests, is unmixed with charcoal and does not seem to be discolored by fire. Seemingly it is blackened by a mixture with carbonaceous material, very probably of animal origin, and almost certainly coming from nothing in the vegetable line. We do not see how this material can have come from animals burnt ceremonially, as aboriginal cremation does not seem to have been complete, and there are no fragments of bones in the darkened sand. Can it be that flesh, stripped from the bodies when taken from the dead-house, was cremated and afterwards mingled with the sand which held the deposit of earthenware made for the dead in common?

Beginning at the coast boundary of Alabama and continuing eastwards along the Florida coast, were cemeteries sometimes in level ground, sometimes on large domiciliary mounds, where single skulls, or skulls with a few other bones placed in the sand, were covered by inverted bowls. Very occasionally bowls with human remains were covered with other bowls. Cremated burials, in connection with urns, were not found, and were met with unenclosed but twice in the mounds. Cabeça de Vaca tells us the people of this region buried their dead, with the exception of doctors, whom they burned; and the infrequency with which cremation is met with there would seem to bear out his statement.

Urn-burial extends along the northwest Florida coast on the mainland, the last and easternmost in Florida met with by the writer, being in a mound at Ocklockonee bay, Wakulla county, but this form of burial is not known to have been met with in peninsular Florida.

The earthenware of this region is most excellent when the best specimens are considered. "Gritty" ware is not met with and shell-tempered ware is found only occasionally and then well over toward the Alabama line. In decoration and shape the earthenware shows a variety of cultures. The black polished ware of Mississippi is occasionally found in the western portion of the Florida northwest coast. The complicated stamp of Georgia and of the Carolinas is more frequently met with as one goes

to the eastward until it is present in great quantities. There are also life-forms suggesting the middle Mississippi district.

The incised decoration is at times very beautiful and often symbolical, sometimes representing forms highly conventionalized. On much of the ware of this district is found the symbol of the bird, which is a straight or curved line with a circular or a triangular marking, sometimes at one end, sometimes at both. This symbol possibly represents a feather and taken substitutionally, a part for the whole, stands for the bird. Practically no vessels with the forms of birds or with bird-head handles are without this symbol. On the other hand, many vessels of other shapes bear it also. Professor Holmes has pointed out that the aborigines were not always consistent, and what at first were symbols and used in connection with certain things, afterward were employed for purposes of decoration generally. In the Hall mound, Apalachee bay, northwest Florida, was a vessel of earthenware around the lower part of which was a rattlesnake in relief. The likeness was excellent. The rattles and the button were clearly shown, as was the triangular head of the pit-vipers. On the body of the serpent were several bird-symbols. Here, plainly enough, if these symbols were used only in connection with their original meaning, would be a representation of the plumed serpent, but, as the case stands, one can only surmise.

Perforation of the base, made by knocking out a portion, that the pot might be "killed" and its soul thus freed to accompany the souls of the dead, is almost universal along the northwest Florida coast as it is in peninsular Florida, though met with but to slight extent in southern Georgia and Alabama. A refinement of this custom was practiced along the coast as it was in peninsular Florida, but in no other region, to the writer's knowledge. This refinement consisted of the manufacture of ready-made mortuary ware having a hole in the base made before the baking of the clay. These vessels, which are usually small in peninsular Florida and of fantastic and useless shapes, and small and large along the northwest coast and often life-forms, are always of inferior ware, half-baked clay, and probably were made by the thrifty aborigines to save better vessels which they did not care to part with. Along the Florida northwest coast, but not in peninsular Florida, a still farther modification of this custom was practised, consisting of the making of a number of holes of various shapes

in the bodies of the vessels at the time when the hole in the bottom was made, before the firing of the clay. This form of ware is much superior to any ceremonial ware found in the peninsula of Florida.

In a mound near the town of Apalachicola was a gorget identified by Professor Lucas, of the National Museum, as made from the femur of a bison.

In a mound on the Jackson river, not far from Apalachicola, were two discs of copper, one at either side of a skull. Between each disc and the skull was a smaller disc of earthenware with a central perforation. It was evident that these copper discs, which were also centrally perforated, were worn as ear-plugs, the copper being on the outside of the ear and the earthenware disc fastened to the copper one, through the lobe of the ear to keep the copper disc in place. The writer has found also fragments of two discs of copper and two earthenware discs in a mound in the lake country beyond the Ocklawaha river, Florida. Where copper discs are found unassociated with the pottery ones it is probable that wooden discs were used, which have disappeared through decay.

The burial mounds of peninsular Florida are of the deepest interest. All are of sand, some were of considerable size, one, near the mouth of the St. Johns river, over 30 feet in height, having been demolished by the writer. Some mounds are stratified to a certain extent. A small mound near Duval's Landing, St. Johns river, had a layer of sand made pink with hematite, about one foot below the surface. In the famous mound at Mt. Royal, near Lake George, mentioned by the two Bartrams, were masses of sand throughout, dyed scarlet with the red oxide of iron.

The bunched burial is the most prevalent in peninsular Florida, though skeletons at length and flexed skeletons are often met with. These latter probably were wrapped in some sort of covering and tied with cords or sinews. In a mound near the Little Manatee river, Tampa bay, were skeletons so closely flexed that the mass was sometimes but 23 inches in length and 26 inches in circumference. As stated before, urn-burial, probably, did not obtain in the peninsula, and cremation was not practiced as a means of disposing of the remains, though burnt

bones are often found, including bones charred in places. These presumably came in contact with ceremonial fires.

In some mounds bones were badly decayed. All that remained in the great Mt. Royal mound could have been held in a bucket.

There were no general deposits of pottery in the mounds of the peninsula, earthenware being one of many objects sometimes selected to place with the dead, such as stone hatchets, copper ornaments, pearls, etc., including the curious "spade-shaped" implement which was probably a ceremonial mace.

In form and decoration the earthenware of the peninsula is inferior to that of the northwest coast of Florida, though certain vessels and sherds found here and there are fully equal to any ware from the Florida mainland. These, perhaps, were importations. On the island of Marco, almost the northernmost of the Ten Thousand islands, southwest Florida, the writer got two bird-head handles of shell-tempered ware, which ware was not in use in the peninsula, and of a type distinctly unlike the ware of the peninsula and just as distinctly resembling that of the upper Gulf and farther north. One was grooved for use as a pendant; the other, doubtless, had served in the same capacity, as a hole left in the bill at the time of manufacture could have been utilized. These bird-heads were surely importations and perhaps other ware of excellent quality, found in the peninsula, was imported also. Mention has been made elsewhere of the mutilation of the base of vessels in fulfilment of a mortuary rite, and of the "freak," or ceremonial ready-made mortuary ware.

In Thursby mound, near Lake Beresford, St. Johns river, the writer got a remarkable collection of earthenware. The following is taken from the report on the subject. "In an oblong space, 6 feet in breadth and about 25 feet in length, beginning 18 feet from the center of the summit plateau, on the southeastern slope and extending to the margin of the base, from 4 inches to 1 foot below the surface, was a deposit of pottery, amazing in number and variety, including pots, dishes, bowls, effigies of animals, of plants and of various other objects. * * * These vessels varied in diameter between 1.35 and 4.75 inches. * * * In all, seventy-five specimens of vessels of pottery were recovered. * * * No less than forty-eight animal effigies, ranging from 2 to 7 inches in length, were recovered in almost unbroken condition. Among these were eight fishes and

ten turtles. Many showed perforations as for suspension. * * * Among them were recognizable two species of turtle, probably the loggerhead and the snapper; several species of cat, including, probably, the puma and the wildcat; bears; squirrels; the wild turkey; possibly a dog; and, in all probability, a beaver. Several otters also were identified. * * * Included among representations of the vegetable kingdom were: Twelve acorns, some exceedingly natural and cleverly represented; a gourd; an ear of corn (maize), very life-like; possibly the bud of a water lily, and several other vegetables of uncertain attribution. * * * Among the unidentified were forty-one specimens, including a large class of objects resembling a potato covered with knobs, others with numerous spines resembling the sea-urchin. * * * In all two hundred and ninety-two objects of pottery were taken from the Thursby mound. * * * In addition to these, sixty-two fragments representing distinctive portions of animals and of vessels of especial interest were saved, while four hundred and eight sherds, mainly portions of bowls and pots, showing perforation previous to baking, were added to the collection." One of the animal effigies has a long snout like that of a tapir. At the time of its discovery, the writer did not know of the existence of this animal north of Mexico, but Mr. Henry C. Mercer subsequently found, in a cave in Tennessee, with the skeleton of an aborigine, the bones of a tapir.

Along the east coast of Florida burial mounds were unimportant, though great shell-heaps and large domiciliary mounds of sand are numerous there. In fact, great domiciliary mounds are present all along the Florida coast.

Along the southwest Florida coast, including the Ten Thousand islands, are mighty mounds of shell with canals, breakwaters, etc., so well described by Mr. Cushing. The writer spent one season at work among the Keys of the Ten Thousand islands, going nearly to the Northwest cape, measuring the great mounds and digging everywhere into muck deposits similar to the one where Mr. Cushing made his notable discoveries. No success rewarded this investigation in the muck, and the writer believes, as Mr. Cushing once said to him, that some exceptional event, perhaps a cyclone which crushed down a building with its contents, was the cause of the deposit of articles in a single spot. Very recently there has been sent the writer from muck in Chokol-

oskee Key, one of the Ten Thousand islands, well to the south of Marco, where Mr. Cushing made his discovery, a cup wrought from wood, and two curious objects of wood somewhat resembling rudders of toy boats, decorated with black paint. Here and there in the muck, doubtless, are objects of wood, but too widely scattered to repay investigation. On and in the shell deposits are great quantities of implements of shell, pierced with holes for handles for use as tools, since the beaks are greatly worn and chipped by continued use. Certain of these implements may have been used as war-clubs, as has been stated, but the great majority of them must have seen service as tools. These tools ranged in size from the little *Fulgur pugilis* to great specimens of *Fasciolaria* and of *Fulgur perversum*.

Throughout the mounds of peninsular Florida are many objects of copper. By the time this metal had reached Florida it had come so far that apparently it was considered of great value, and hence objects of solid copper are almost never met with there, but rather ornaments of sheet copper, and also of wood, of shell, or of limestone, overlaid with sheet copper. This sheet copper, when closely examined, often is found to be small pieces riveted together so as to piece out a sheet to a required size. This treatment would seem to be purely aboriginal, as there would be no incentive for whites to treat sheet copper so. Another point showing the sheet copper of the Florida mounds to be aboriginal is the fact that it was found from top to bottom of large mounds in which no object surely of European provenance was met with. The writer of this paper, some time ago, published a memoir on the copper of the mounds, based upon numbers of analyses made for him by chemists very familiar with the analysis of copper. The writer's conclusions were as follows:

That the copper of the mounds of the St. Johns is *native* copper, as shown by its high percentage of copper, a percentage not obtainable by early smelting processes, and by its freedom from the impurities which are found to a great extent in copper smelted from the sulphide ores of Europe. In addition, lead, used in smelting processes of Europe, is present in earlier European sheet copper and is absent from native copper and from the copper of the mounds.

Florida copper may have been derived from various sources, but in all probability most of it came from the Lake Superior

region, where the copper is native copper. Incidentally, copper from mounds in other localities is mainly like the Florida copper, native and aboriginal, having nothing in common with the products of the impure European sulphides and imperfect smelting processes of the XV, XVI, XVII, XVIII centuries. In fact, even at the present day, copper as pure as that from the mounds cannot be smelted from the arsenical sulphide ores of Europe. The writer's conclusions as to copper have been universally accepted. At least no attempt has been made to controvert them.

A certain amount of what is usually called European copper from the mounds is in reality brass, as for instance the so-called copper kettles sometimes found; but occasionally the writer has found copper of European provenance in southern mounds, usually near the surface. Such copper is always recognized with the greatest ease; in the first place, through the results of its analysis, and, secondly, on account of the company it keeps, for with such copper there is present glass beads, implements of iron and the like, which are distinctly of European origin. Never has the writer found copper whose analysis showed great impurities at any depth in mounds, unless this copper was associated with various articles of European make; and the writer has, for ten years, made a specialty of aboriginal copper, and his researches have ever been personally conducted.

It is the writer's belief that the majority of mounds investigated by him date from a period anterior to the coming of Europeans. In none of the larger mounds of the St. Johns were objects of European provenance found, except near the surface, and then in several cases only. From Mt. Royal and from the great Grant mound, near the mouth of the St. Johns river, came no object of European make. Superficially in certain larger mounds, and throughout in a few small mounds, were objects denoting contact with the whites. In a low mound in Clay county were three skeletons, two of males, with the metal parts of muskets, and one of a female, with a bit of looking-glass, and red paint, which proved to be cinnabar, mercury sulphide, and not the red oxide of iron.

Knowing how objects of European make were furnished in great numbers to the aborigines, it seems most unreasonable to suppose that great mounds were built after contact with the whites and filled from bottom to top with objects exclusively of

aboriginal make and that all objects of European provenance should carefully be kept from these mounds.

The following quotation from "Archaeological History of Ohio," by Gerard Fowke, a veteran field-worker, is endorsed by the writer of this paper, as is Mr. Fowke's book.

"Others besides McGuire have maintained the theory that not only pipes but the various ceremonial stones, copper ornaments, even grooved axes and celts, were made by white men for trading to the Indians. It is not easy to have the patience to contradict such assertions. As to a majority of these things, they are made of stone or metal found in the vicinity of the finished articles. For the most part the materials are not to be obtained in those portions of Europe where the early settlers and traders procured their goods for traffic with the American natives. The objects themselves are unlike anything in other quarters of the globe. There is no mention of their importation in the accounts of Jesuits, or explorers of any nation, most of whom recorded minute, even trivial, circumstances concerning their dealings and the sort of trinkets the Indians desired. They are described in histories and diaries of the earliest pioneers, as among the novelties in possession of different tribes. In several narratives of two or three centuries ago are related the processes by which arrows, beads, tomahawks, pipes, and other things were perfected. Nevertheless, in the face of all this, we are asked to believe that immediately upon the discovery of America, Europeans provided themselves with material from regions which no white man saw until a century later; they made this material into thousands of articles, in scores of patterns hitherto unknown and unthought of by any one in the world, and palmed these articles off on Indians to whom they could have no possible meaning, and, except the pipes, be of no practical use. This, too, when they had great stores of knives, hatchets, kettles, guns, and novelties, which would be eagerly bought up at exorbitant prices"!

The shell deposits of the South Carolina coast are numerous, but smaller than those found farther south. There are several circular enclosures of shell, but none to compare with the great circular enclosure of oyster shells, known as the Indian Fort, at the northern extremity of Sapelo island, Georgia, which has a diameter of over 300 feet, with walls from 5 to 7 feet high and about 50 feet thick at the base. The Georgia riv-

ers, examined by the writer, have but insignificant deposits of shell, and this also is true of the rivers of Alabama. There are shell heaps of considerable size along the coast of Alabama and along the coast of northwest Florida, but the great shell-heaps on the west coast of Florida begin near Cedar Keys and continue along the coast through the Ten Thousand islands, including the vast mounds known as Indian Hill, Tampa bay, where a mound over 1200 feet in circumference at the base and 30 feet high, rises from a plateau of shell which is 6 feet 7 inches above water level, the total, undoubtedly, forming the maximum height of any Florida shell deposit, if measurements are taken in preference to estimates.

Another notable deposit of shell is that composing Mound island, in Estero bay, whose highest mound, bordering an aboriginal canal intersecting the island, is a trifle over 30 feet in altitude, though a published statement has made it 60 feet in height.

Still another shell island of marked interest is Chokoloskee Key.

All these shell islands, as Mr. Cushing states, must have been pile dwellings at the start, since the low, flat islands, formed by the wash of the sand around the root of the mangrove tree, are under water at high tide.

Great shell-heaps are found at intervals along the Florida east coast. Stowe island, of which now little remains, the shells having been largely used for lime, had a height of over 30 feet, a measurement made by the writer, as were all those given in this paper. Other east coast shell-heaps are Turtle mound near New Smyrna, Green Hill, and the shell deposit at Jupiter Inlet.

The writer has done comparatively little in the way of digging among the shell-heaps of the coast, and such as he has done has been with but negative results. Presumably these great heaps contained but little in the way of artifacts. The great shell deposits at Bullfrog creek, Tampa bay, was removed to pave the streets of a certain town. It is reliably stated that the excavations were carefully watched (curiosities have a market value in Florida), but practically nothing of interest was met with. Stowe island, to which reference has been made, was frequently visited by the writer during its demolition and those engaged at work there were found to be on the alert, but discoveries reported were comparatively trifling.

The shell-heaps of the St. Johns river, in whose exploration Professor Wyman was the pioneer, have been carefully investigated by the writer, starting near Palatka, where the fresh-water shell-heaps begin, as it is there, about one hundred miles above the mouth of the river, that the water is fresh enough to permit the growth of a sufficient quantity of the *Unio*, the *Ampullaria* and the *Paludina*, which largely make up the shell-heaps of the river.

The investigation to which one season was devoted and parts of others, was carried practically to the river's source. The results are described in five papers published by the late Professor Cope in his "American Naturalist."

Some of the shell deposits of the St. Johns are of enormous size. That at Bluffton, above Lake George, is believed to cover over thirty acres. The maximum height exceeds 20 feet. Mt. Taylor, in the swamp near Bluffton, now almost entirely removed, had a height of 27 feet, with basal diameters of 175 feet and 500 feet. The shell deposit at the western side of Lake George probably equals that of Bluffton.

Throughout the river shell-heaps are fire-places with bones of fish and quadrupeds, remnants of meals with human bones in addition, split and charred by fire, indubitably indicating cannibalism, as Professor Wyman has shown.

Burials are occasionally found in the shell-heaps.

As might be supposed, with the exception of broken earthenware, artifacts are of infrequent occurrence in the shell-heaps, which were dumping places for refuse solely. An exception was Mulberry mound, an island shell-heap on the St. Johns, near Lake Poinsett, which the writer believes to have been the most recent shell-heap investigated by him. This island, evolved from pile-dwellings, had a small burial mound attached, in the lower parts of which several chert arrowheads alone were met with. With superficial burials, however, were objects of iron and of brass. The shell-heaps, 16 feet in height, were largely dug into upon various occasions. Superficially was a polished stone hatchet, while excellent ware was found at considerable depth. Ornaments were in the mound and two neatly made lanceheads of chert lay near the base. In this mound fiber-tempered ware, so-called from the channels throughout, left by the burning of vegetable fiber during the baking of the clay, a species of ware found in the shell-heaps,

but not in the burial mounds, was met with near the base only. A remarkable discovery was fragments of two tobacco-pipes and a tubular pipe with one extremity bent at an obtuse angle, all of earthenware. Professor Wyman found no indication of the presence of tobacco-pipes in the shell-heaps of the St. Johns, nor has the writer in any other heap.

In other shell-heaps of the river were arrowheads of chert, some very rude, and roughly-made cutting implements of the same material; also implements of shell and of bone. In certain mounds no earthenware is met with. The writer repeatedly dug into Mt. Taylor, to which shell-heap reference has already been made, finding pottery superficially only. Afterward, Mr. Charles H. Curtis, of Bluffton, who has taken great interest in the writer's work from the very start, has removed this great deposit almost entirely for use on the streets of Jacksonville. During the demolition, the heap was visited by us. In great sections of exposed shell no earthenware was apparent and Mr. Curtis, who kept close watch, as did those in his employ, believes that pottery, but little of which was found, was met with near the surface only.

Other shell-heaps had earthenware to a certain depth only, apparently, while in others again the ware is present throughout and at times the pottery is found improved in quality as the surface is approached. Professor Holmes has pointed out that the fiber-tempered ware, the rudest of all in the shell-heaps, bears decoration that is not of the most primitive order, which would militate against a theory that pottery came to Florida through the slow process of evolution.

The writer of this paper is convinced that the makers of some of the shell-heaps of the St. Johns were not possessed of earthenware, for had they been, there is no place where its use would have been called for to such an extent as on their dwelling sites. It seems most unlikely that pottery in certain shell-heaps has disappeared through decay since no partly decayed sherds are met with in the heaps. On the whole it is the writer's belief that many of the shell-heaps of the St. Johns, while, of course, recent geologically, are of considerable comparative antiquity and that to savages without earthenware, but perhaps possessed of vessels of wood, there came the knowledge of the use of earthenware perhaps from neighboring territory, and that this earthenware underwent improvement in course of time.

Palemke Calendar, the Signs of the Days.

BY

ALFREDO CHAVERO.

Inasmuch as the ruins at Palemke are in the territory of what is now the State of Chiapas, it seems but logical to adduce that the nomenclature of the days in the Palemke calendar should be the same in the Chiapaneco, preserved by Bishop Francisco Nuñez de la Vega in his "Constituciones Dioecesanass" published at Rome in 1702. Boturini, Veitia and Clavigero repeat the Bishop's list; and the modern authors, from Pio Perez to Orozco y Berra, do likewise.

Pio Perez was the first who tried to find relation between these names and those of the Maya calendar, but notwithstanding his efforts, he failed to attain it. He sought etymologies that are not in conformity with grammatical rules. In doing so, he changed freely some of the letters of the words and the true meaning of these; and even so, he is beset with a new difficulty: the lack of correspondence in order or place of the days that are considered etymologically to be equal, which could not be explained in any other manner, as said order is an essential part of the system.

Later, more modern authors have insisted in making the same comparisons, and they have extended it to the names of the Nahua calendar, but they have met with identical difficulties. It is enough to see how each one of them proposes different etymologies, to be convinced of the lack of foundation in their pretensions. To show this more palpably, let us take the comparative table of Mr. Léon Rosny, in the Maya, Chiapaneco and Nahua dialects, which is as follows:

A simple glance at this table is sufficient to show at once two things; first, the clear relation of the Chiapas calendar with the Mexica, in the order and signification of the days; secondly, the want of relation with the Maya, in either of the two things just mentioned. There is another very notable circumstance. In the

Chiapas calendar as well as in the Mexica, one-half of the days have names of animals and they are the same, whilst in the Maya

Maya.	Kiche and Cakchiquel.	Chiapaneco.	Mexica.
1 kan	imox : sword-fish	imox	cipactli : sword-fish
2 chiechan	ig : spirit, breath	igh	ehecatli : spirit, breath
3 cimi	akbal : confused thing	votan	calli : house
4 manik	gat : lizard	chanan	cuetzpallin : lizard
5 lamat	can : serpent	abali	cohuatl : serpent
6 muluc	camey : dead	tox	miquiztli : dead
7 oe	quich : stag	moxic	mazatl : stag
8 chuen	ganel : rabbit	lambat	tochtli : rabbit
9 eb	toh : rain, shower	molo	atl : water
10 been	tzy : dog	elab	itzcuintli : dog
11 hix, ix	batz : monkey	batz	ozomatli : monkey
12 men	ci, balam : broom, tiger	evob	malinalli : liana
13 cib	ah : cane	been	acatl : cane
14 caban	yiz, itz : witch	hix	ocelotl : tiger
15 eznab	tziquin : bird	tziquin	quauhtli : eagle
16 cauc	ahmak : owl, fisherman	chabin	cozcaquauhtli : falcon
17 ahan	noh : temperature	chie	ollin : movement
18 imix	tihax : obsidian	chinax	tecpatl : obsidian
19 ik	caok : rain	cahogh	quiahuatl : rain
20 akbal	hunahpu : sling, thrower	aghual	xochitl : flower

days there is not one having an animal name, for the translation of *kan* is doubtful in this sense, and we cannot be sure even of *chiechan*, as we do not know its true meaning. It is easy to explain the similarity of the score of names in the Chiapas and Mexican calendars. By its geographical position, the territory of Chiapas was necessarily the route for the numerous emigrations which came from South to North. As Palenke was abandoned centuries before the Conquest, each emigration brought its share of adulteration in the ancient culture, in the ancient language and in the ancient calendar. Besides, through said territory, the emigrations from North to South, of peoples who had very different civilization and language from the others passed also. The last to come was the Mexica invasion, which took place very near the time of the Spanish conquest. In two ways the Mexica brought about a modification in the original ideas of those dominions of the South. One of these was of a pacific nature, and undoubtedly the first: that of the *pochtecas* or traders. Leaving Mexico,

and following for their guide the Southern Cross, their god *Yacatecuhtli*, they carried their goods to those distant lands, and with them, necessarily, their knowledge, their beliefs and their new ideas. The other influence was of latter period and of more dominant nature: the invasion by war and conquest. In the Mendocino codex, we see how Tizoc, King of Mexico, conquers the peoples of Chiappa, Comitan and Huehuetan, that is to say, all the territory that is now Chiapas. In the shape of tributes we find that Xoconochco and other places in that region, as evidence of vasalage, sent to Tenochtitlan, in Moteczuma's reign, quantities of cacao, tiger-skins, precious birds called *xihutototl*, the richest green feathers of quetzal, fine stones and strings of *chalchihuitl*. From this mixture of influences, numerous and foreign, a hybrid calendar had to result indubitably: securely, with some remembrances of the primitive one, but in which by logical force predominated the Mexica form, and above all, its ideology.

In the Maya peninsula, the same did not occur. By its geographical position, she was isolated from these emigrations, and Mexica armies never reached her soil. In very remote times, the Meca from Tutul Xiuh brought them the Nahua calendar, and they had kept pure its ancient form.

From all these it is deduced, that the names of the days of the Chiapaneco calendar and of others from that territory, which have been preserved to us by the chroniclers, are not, nor can they be, those of the days of the calendar of ancient Palenke. Let us see if by other means we can find them.

Some writers whose competence is recognized in these archaeological studies, when they examine the beautiful bas-relief of the Cross of Palenke, have found in their tablets, identical or similar signs to those of the days in the Maya calendar. These were known by the publication entitled "La relación de la cosas de Yucatan" by Fray Diego de Landa, made by the Abbé Brasseur de Bourbourg in 1864. Fray Diego wrote his work in 1616, with the news communicated to him by the descendants of the Maya priests.

Léon Rosny, in the XIII plate of his work "Essay upon the interpretation of the hieratic writing of Central America", had put three signs of the days taken from inscriptions at Palenke: *cimi*, *ahau* and *imix*, allowing the mistake in the first, which is *ik*.

Professor Rau, in his treatise entitled "Tablet of Palenke at the National Museum of the United States", finds in it the signs *kan*, *lamat*, *chuen*, *been*, *ezanab*, *ahau* and *imix*. He discovered, therefore, five more signs than Rosny, which gives us a total of eight.

Doctor Valentini, in his monographo "Analysis of the pictorial text inscribed in two Palenque tablets", sees in the relief of the Cross, the following signs: *ahau*, *oc*, *cib*, *men*, *cimi*, *manik*, *chicchan*, *cauac*, *ik*, *been*, *chuen*, *ezanab*, *eb*, *lamat*, *kan*, *caban* and *imix*. This would give us 16 signs.

The learned Professor Cyrus Thomas has published several very important works on the Maya calendar, but he has referred in them only to the codices. Notwithstanding, in his work "A study of the manuscript Troano", he considers the signs of the relief of the Cross, and finds the following signs: *cimi*, *manik*?, *chuen*, *lamat*, *kan*, *ahau*, *ezanab*, *imix*, *eb* and *muluc*, namely ten, one of which is doubtful. In his last work "Mayan calendar system," while speaking of Mr. Goodman's ideas on the interpretation of the inscriptions on the relief of the Cross, he dwells extensively on the chronological reckoning, and in doing so, he refers to various signs of the days, which are the following: *ahau*, *ik*, *cimi*?, *kan*, *lamat*, *caban*, *ezanab*, *imix* and *cib*?, nine in all.

Mr. J. T. Goodman in his monumental work on "The Archaic Maya Inscriptions", bring forth the signs of the days called sculptural, because he has taken them, on the whole, from the inscriptions, even if it be true that the characters in the form of faces are to be met also in the codices, as can be seen in the Troano. Several of these signs are found in the relief of the Cross.

Who has really made a thorough research of the signs of the days in the Palenke inscriptions has been Mr. Lewis W. Gunkel, in his monographo "The study of the American hieroglyphs." From his investigations, it results that the Maya signs of the days, with the exception of *caban*, are in the Palenke inscriptions in the following proportion: *kan* 11; *chicchan* 7; *cimi* 1; *manik* 14; *lamat* 4; *muluc* 12; *oc* 6; *chuen* 36; *eb* 1; *been* 16; *ix* 4; *men* 1; *cib* 1; *ezanab* 8; *ahau* 21; *imix* 7; *ik* 6 and *akbal* 1. Total 157.

But in the relief of the Cross, he finds only the signs *kan*, *cimi*, *manik*, *lamat*, *muluc*, *oc*, *chuen*, *been*, *ix*, *ezanab*, *cauac*, *ahau*, *imix* and *ik*: fourteen signs.

I had wished to study personally the relief of the Cross. In the

National Museum of Mexico, there exists the original tablet of the center, and there are magnificent plaster casts of the three relief-tablets. In order to avoid all error or dispute, I have considered as signs of the days the glyphs which have joined to them on the left numerals consistent in bars, or points. Let us begin with the central tablet.

Here is to be seen the Cross and the High priest, who is offering, in holocaust, a child. On the sides of the Cross in the lower part, are four signs, two to the right and two to the left, all having a bar, or the numeral 5. The signs in the original are effaced in such a way, that we can only affirm that the upper one to the left is 5 *ezanab*. On the child are five glyphs, three of them are of days. The upper one to the left is the only one which can be well perceived. This is 8 *muluc*. Hence, from the central tablet, we get two signs: *ezanab* and *muluc*.

In the tablet to the left, I found the following signs of the days. In the first vertical column: *manik* and *ahau*; in the second: *chuen*, *ahau* and *oc*?; in the third: *cimi*, *manik*? and *ik*; in the fourth: *ahau*, *been* and *men*; in the fifth: *ik* and *chuen*; and in the sixth also: *ik* and *chuen*. I have not taken into consideration the signs without coefficients nor the sculpturals, because there is a doubt as to whether the first are of days, and the second cannot be compared with those of Landa. Hence, from this tablet two doubtful signs results: *manik* and *oc*; and six certain: *ahau*, *chuen*, *cimi*, *ik*, *been* and *men*; which added to the two in the central tablet and not included in this, gives us eight.

In the third tablet are six vertical lines of glyphs, as in the first, and besides a small one, very near the figure of the High priest. In the latter is seen the sign *chuen*. In the first of the larger ones *chuen* and *lamat* are to be seen; in the second *kan*, *ix* and *ahau*; in the third *imix*?, *chuen*, *ezanab*, *ahau* and *kan*; in the fourth *imix*?, *chuen* and *cauac*; in the fifth *chuen* and others which are doubtful; and in the sixth *imix*, *chuen* and *kan*; thus, from this tablet results as doubtful the sign *cauac*, and for certain, *cheun*, *lamat*, *kan*, *ix*, *ahau*, *ezanab*, and *imix*, or seven signs.

In the three relief-tablets are therefore twelve signs of the days, which are: *ahau*, *chuen*, *cimi*, *ik*, *been*, *men*, *ezanab*, *muluc*, *lamat*, *kan*, *ix* and *imix*, and besides as doubtful, *manik*, *oc* and *cauac*.

It is sufficient to have found in this inscription of Palemke

twelve signs which are similar to the Maya calendar, in order to affirm two important points. The Palenque people had the same Maya calendar, at least, in its essential basis; and they spoke the same language, even if in the lapse of time, it suffered some modification in that of the Peninsula.

But, before drawing definitely these conclusions, I have wished to examine some antiquities, in which are found some signs of the days. In a green-stone and mosaic frog, there can be seen in a glyph which has the numeral four as its center, the sign *chuen*. In a small cat's eye cup, in the lower part there is engraved at its foot, the day 8 *ahau*. In a small plate of very fine stone, of Balum Canan, there are also in mixed glyphs, the signs *imix*, *ezanab*, *chicchan*, *cimi*? and *cib*?. In a slate plate, on one side there is a deity, and on the other the signs *imix*, *ahau* and *ix*?. In a waist-ornament formed by a plate of malachite sealed upon another of obsidian, I see the signs *manik*, *ezanab* and *cimi*. In a copper box in which Mr. Maudsley finds connection with the glyphs of Copan, are the signs *lamat*, *ezanab*, *been*, *chuen*, and *ahau*. In an earring or head-gear behind a mosaic made of black, yellow and red marbles and turquoises, are engraved clearly the signs 2 *imix* and 3 *chuen*. A mother-of-pearl shell has its lower part beautifully fashioned with the face of a deity in the centre, and among the fashioned parts, there appears to me to be the signs *manik*, *imix* and *cib*. In another piece formed of two parts of a shell are the following signs: 10 *imix*, 7 *caban*, 14 *manik*? and 13 *cib*, and others which I do not comprehend. In a fish, also made of shell, Mr. Maudsley recognizes the sign *imix*, and I believe that there are also the signs *cimi*, *ik* and *muluc*. In fine, in a copper disc, although much battered, there can be read yet the signs *chicchan*, *cimi*, *manik*, *ahau*, *ezanab*, *akbal*, *been*, *lamat*, *imix*; and are two others which cannot be distinguished. There are also in the inscription of the box which I published in my study "The astronomical deities of the Ancient Mexico", the signs *imix* and *ezanab*.

But if the preceding data be not sufficient, it can be further supplemented by another antiquity, in which are all the signs of the days, in characters of writing style, and that, therefore, is conclusive proof in this matter. It is also a box, measuring $12\frac{1}{2}$ centimeters long by $9\frac{1}{2}$ wide and 6 in height, of which $3\frac{3}{4}$ belong to the lower part and $2\frac{1}{4}$ to the top. This has sculptured also in

bas-relief a divinity which has yet preserved sufficiently its colors, and several glyphs. In the four corners, that are slightly curved, there are engraved the signs of the days, and in the centre of the three lateral faces are, in each one of them, a fashioned sign in mosaic. The box is of a yellow stone with darker veins, resembling the litomarga.

The groups of signs of the corners are formed by five vertical lines with five glyphs each, which gives twenty-five signs to each corner and one hundred in the four. The lines are not exactly vertical, the glyphs at the top are somewhat deflected, doubtless, because this part was fashioned separately from the lower part; the way the glyphs were fashioned was by means of diminutions on the lower part and after they were formed, they were painted black, and the signs of the days were engraved on them.

As on the top are sculptured special signs of the five grades of the cyclography from right to left, and then from top to bottom, this should be the order for reading the squares of the corners: first, the upper one on the right; second, the upper one on the left; third, the lower one on the left; and fourth, the lower one on the right. We will follow this order even though it does not have any important interest for our present purpose.

First square.

In this square we find the following signs:

<i>lamat</i>	<i>oc</i>	<i>kan</i>	<i>canac</i>	<i>muluc</i>
<i>caban</i>	<i>ahau</i>	<i>chicchan</i>	<i>been</i>	<i>cib</i>
<i>lamat</i>	<i>oc</i>	<i>akbal</i>	<i>imix</i>	<i>caban</i>
<i>chicchan</i>	<i>muluc</i>	<i>cib</i>	<i>ahau</i>	<i>cimi</i>
<i>ik</i>	<i>men</i>	<i>cib</i>	<i>ahau</i>	<i>lamat</i>

If we take *kan* as beginning of the score, the square will give us this numerical order:

5	7	1	16	6
14	17	2	10	13
5	7	20	18	14
2	6	13	11	3
19	12	13	17	5

We do not know to what combinations this order obeys.

As it is seen, in this square are represented 16 signs of the days, and there are only wanting *manik*, *cheun*, *eb* and *ezanab*.

Now, let us compare the figures of the signs that have been found. *Kan* is like that of Landa and the same as number 2 in Mr. Gunckel's table, which contains the different glyphs of days of the reliefs at Palenke.

Chicchan somewhat differs from Landa's, as they differ generally those of the codices, and it is the same as number 11 in the table of Mr. Gunckel. There is a deviation of the sign, consisting in a lower line in zigzag manner.

Cimi.—This sign, as is found in Landa's, has not a like one in the codices, but only a similar one. That of the box is very similar to numbers 11 and 12 of Gunckel's table.

Lamat.—This sign is represented in two manners in this square. One by two diameters crossed in a straight angle, with a small circle in each segment; thus it is in Landa. The other by four united curves that form in the shape of a cross, with a small circle in the middle and four around it: thus it is seen in numbers 36 and 39 of Gunckel's table and in the corresponding sculptured sign.

Muluc.—The first sign is similar to Landa's, only that the outside curved line is not towards the left, but to the right. The second has it to the right, but there are small central circles in it, instead of one, separated by another line, in zigzag fashion. It occurs whether this could be rather a deviation of *oc*, but there is not sufficient data to determine. It is also similar to *cimi*, number 19 of Gunckel's table.

Oc.—Similar to Landa's and equal to numbers 49 and 51 of Gunckel's table, but the second sign of the square of the box contains also a cross.

Bcen.—Equal to Landa's and to numbers 73 and 74 of Gunckel's table.

So far we have examined seven signs corresponding to the first ten days, because the other three are wanting in the square as we have seen; and we have observed, particularly, its likeness or close resemblance with the drawings of Gunckel's table, because these were taken principally of the glyphs of the Palenke monuments. Hence, we can affirm that the signs of the box are the same, from *kan* to *bcen*.

Ix.—Similar to Landa's and to numbers 3 and 4 of the second table of Gunckel, but constituting a deviation from them.

Men.—I have doubted whether this sign is *men* or *eb*. Both have form of a rostrum, the first is distinguished by a leash of his ornament, and the second by his special dropping ear, similar to that of a pachyderm. Neither of these particularities are in the sign, but it is similar to Landa's and to number 9 of Gunckel, which has not them also.

Cib.—The second sign is similar to Landa's and to number 18 of Gunckel, the first is a deviation.

Caban.—The second is similar to number 29 of Gunckel and of Landa also, but it appears in inverted manner. The first has inside a *tau*, similar to the sign that is generally recognized as *ik*.

Cauac.—Similar to Landa's, and more to numbers 42 and 49 of Gunckel, for having a cross.

Ahau.—The first equal to Landa's and to Gunckel's number 50. The second is more like number 49 of Gunckel, but instead of having two upper small circles it has two crosses.

Imix.—Almost equal to Landa's and to numbers 57 and 58 of Gunckel.

Ik.—Similar to Gunckel's number 66, but it has also within, the lines that resemble the profile of a cup or an anphora, a cross and a small circle.

Akbal.—Similar to number 73 of Gunckel with a cross to the right.

Hence, the other signs of the square belonging to the second ten numbers have been described. Let us pass to the following square.

Second square.

These signs are:

<i>ik</i>	<i>imix</i>	<i>ahau</i>	<i>caban</i>	<i>cauac</i>
<i>akbal</i>	<i>lamat</i>	<i>oc</i>	<i>ix</i>	<i>been</i>
<i>akbal</i>	<i>lamat</i>	<i>cauac</i>	<i>cib</i>	<i>kan</i>
<i>manik</i>	<i>ahau</i>	<i>ezanab</i>	<i>men</i>	<i>chicchan</i>
<i>imix</i>	<i>men</i>	<i>caban</i>	<i>lamat</i>	<i>cimi</i>

Its numerical order is the following:

19	18	17	14	16
20	5	7	11	10
20	5	16	13	1
4	17	15	12	2
18	12	14	5	3

In this second square there are two of the four signs that were wanting in the first: *manik* and *czanab*.

Manik is equal to that of Landa and similar to number 25 of Gunckel's table.

Czanab is almost equal to Landa's and to number 32 of Gunckel's second table.

Let us see the next square.

Third square.

These signs are:

<i>chicchan</i>	<i>manik</i>	<i>cimi</i>	<i>chuen</i>	<i>caban</i>
<i>cib</i>	<i>men</i>	<i>lamat</i>	<i>muluc</i>	<i>imix</i>
<i>kan</i>	<i>oc</i>	<i>akbal</i>	<i>cimi</i>	<i>manik</i>
<i>cauac</i>	<i>muluc</i>	<i>cib</i>	<i>muluc</i>	<i>ix</i>
<i>imix</i>	<i>akbal</i>	<i>lamat</i>	<i>chicchan</i>	<i>eb</i>

Its numerical order is as follows:

2	4	3	8	14
13	12	5	6	18
1	7	20	3	4
16	6	13	6	11
18	20	5	2	9

Besides some deviations of importance we find in this square the signs that we needed: *chuen* and *eb*.

Chuen is similar to that of Landa and to number 57 of Gunckel's table.

Eb is similar to Landa's and to numbers 65 and 66 of Gunckel's table.

Let us conclude with the last square.

Fourth square.

These signs are:

<i>men</i>	<i>czanab</i>	<i>muluc</i>	<i>cib</i>	<i>caban</i>
<i>muluc</i>	<i>ahau</i>	<i>been</i>	<i>chicchan</i>	<i>chuen</i>
<i>akbal</i>	<i>imix</i>	<i>chuen</i>	<i>cauac</i>	<i>been</i>
<i>cib</i>	<i>lamat</i>	<i>ahau</i>	<i>akbal</i>	<i>kan</i>
<i>cib</i>	<i>ik</i>	<i>men</i>	<i>ix</i>	<i>cimi</i>

The numbers corresponding to them are:

12	15	6	13	14
6	17	10	2	8
20	18	8	16	10
13	5	17	2	1
13	19	12	11	3

This square has the repetition of several signs with notable deviations.

From all that has been said, it is deduced, in my opinion, the clear demonstration that the signs of the days of the Palemke calendar were the same as those of the Maya calendar.

There are undoubtedly not many facts acquired by this study, but they are certain; and only with certain facts, even though they be few, can we arrive to know the truth by the route of archaeological investigations.

NOTAS BY ALFREDO CHAVERO.

(1) Habiendo sido honrado por mi Gobierno con el nombramiento de Presidente de la Delegación mexicana al XIII Congreso de americanistas, he debido escribir esta memoria para presentársela. Separado ya de los estudios arqueológicos referentes á los nahuas, pues de los mayas apenas me había ocupado lo muy necesario en mi Historia antigua de México, hoy entro en éstos, para no quebrantar mi resolución de abandonar aquellos; y porque, si notables extranjeros han publicado numerosas é importantes obras sobre ellos, los mexicanos hasta hoy los han tratado á la ligera, sin que haya entre nosotros un trabajo completo de tan interesante materia.

(2) *Kan* se traduce unas veces por cuerda ó mecate, y otras por serpiente, para igualarlo al signo nahuá *coatl*. También se le convierte arbitrariamente en *kaanan*, para darle un sonido semejante al del día chiapaneco *ghanan*. Se considera el signo *kan*, ya como una piedra pulida que servía á los mayas en lugar de moneda, ya como un ojo, ya como un diente, ya como un grano de maíz. No puede haber mayor discrepancia entre los pocos autores dedicados á estos estudios; y se ve de bulto, cómo á la razón substituyen su poder imaginativo. Para relacionar el día maya *cimi*, que significa muerte, con el chiapaneco *tox*, se supone la referencia de éste á un diablo inventado con el nombre de *Hun-Tox*, del cual se dice, sin dar ningún fundamento, que bien puede ser idéntico á *Hun-Came*, habitador del infierno, y del cual habla el Popol Vuh. Con el día *manik* no son menores las dificultades: es una mano que se cierra, dice el uno; es una cosa que pasa rápidamente, dice otro para acercarlo al nahua *mazatl*, venado; y á mayor abundamiento se encuentra la raíz *max*, para buscar idéntica significación al chiapaneco *morik*, no sé cómo.

Bcen ó *ben* para unos representa una estera, y para otros un techo ó un puente, cosas muy diferentes. Bastan estos ejemplos para hacer patente la discordancia.

Tan sólo encuentro correspondencia probable en seis signos de los veinte, y son los siguientes: *mox-imix*; *igh-ix*; *lambat-lamat*; *molo-muluc*; *bcen-ben*; *aghual-akbal*, y *hix-ix*. Pero aún así, si los sonidos de las palabras son parecidos, no siempre tienen éstas el mismo significado. Por ejemplo: *mox* es la ceiba, un árbol, é *imix* parece expresar una teta.

(3) Ensayo sobre la interpretación de la escritura hierática de la América Central. Página 27.

(4) Como se ve, Léon Rosny comienza la veintena de los días del calendario maya por el signo cronográfico *kan*. Lo mismo había hecho Fray Diego de Landa en su Relación de las cosas de Yucatán. El Sr. Seler (*Caractère des inscriptions aztèques et mayas*) pone por día inicial á *imix*. El Sr. J. T. Goodman (*the archaic maya inscriptions*) trae por primero á *ik*. Y el Sr. Cyrus Thomas en su última obra (*Mayan calendar systems*) nos presenta á *akbal*, como el primer día de la veintena en el primer año del cuatrienio. Siguen pues desacordes los autores: y en este caso, en un punto fundamental como es el principio de la veintena, y en consecuencia el del año.

(5) Léon Rosny cambia, no sabemos por qué razones, la ortografía de algunos días de la veintena chiapaneca. Pone *imox* por *mox*, *chanan* por *ghanan*, *abah* por *abagh* y *enob* por *enob*. Ya Pío Pérez había hecho algo semejante, pues trae *muluc* por *molo*, *enoh* por *enob* y *ben* por *bcen*. Lo notable es, que en los dos escritores las variantes son de diversos nombres. Ni en las discordancias hay concordancia.

(6) En cuanto á la verdadera interpretación de *cipactli* y demás signos nahuas, véase lo que sobre esta materia he escrito en varios estudios.

(7) La correspondencia entre los signos nahuas y los mayas y chiapanecas es punto de mucha importancia; y sin embargo, también en esto es notable la discrepancia entre los escritores. La opinión de Léon Rosny parece la autorizada, porque se ve desde luego la relación de los días chiapanecas y quichés; varios son iguales; y la significación de éstos concuerda con la de los nahuas, en el orden en que están puestos. Según Brinton, (*the native calendar of Central America and Mexico*) los números del

primer día son diferentes en los diversos calendarios, si se da el 1 al cronográfico correspondiente. Forma á este respecto la siguiente lista: maya 4, tzendal 3, quiché-cakchiquel 2, nahuatl 3. En realidad admite la misma relación de los nombres adoptada por Léon Rosny; pero discrepa en la de su numeración. El Sr. Seler, en la explicación del *Tonalamatl*, acepta la misma referencia. Lo mismo hace el Sr. Bandelier (*On the social organization and mode of government of the ancient mexicans*); pero al dar la traducción de los nombres, pone de manifiesto su diferencia. La falta de correspondencia de los cuatro signos cronográficos, es una objeción seria. Boturini compara los del calendario chiapaneca con los del nahua, de la manera siguiente: *votan* con *tecpatl*, *lambat* con *calli*, *been* con *tochtli* y *chinax* con *acatl*: mientras en los sistemas antes citados *votan* corresponde á *calli*. Pío Pérez sigue á Boturini, y comienza la lista de los días en los calendarios chiapaneca y maya por *votan* y *kan*; y del orden que de ahí resulta, deduce sus semejanzas. A la verdad esta materia merece especial estudio, pues hasta ahora, con tan diversos pareceres, en vez de la verdad, solamente resultan dudas y confusiones.

(8) El Sr. Cyrus Thomas, en su última obra (*Mayan Calendar Systems*) afirma que las veintenas de los calendarios de Chiapas y de Yucatan eran la misma, y que los nombres de los días entre los diversas tribus no han debido darse correctamente por los escritores primitivos; y funda su opinión en la semejanza de los signos esculturales en ambas regiones. Pero los signos corresponden á una época muy antigua; en tanto que los nombres fueron recibidos después de la conquista. Así, de la igualdad de aquellos, no puede deducirse lógicamente la identidad de éstos.

(9) Véase entre otros documentos, el código Porfirio Díaz en las *Antigüedades Mexicanas* publicadas por la Junta Colombina de México. En ese código está escrita la peregrinación de los cuicatecas, quienes vienen del sur por la América Central, y pasan por varias poblaciones conocidas del territorio de Chiapas, cuyos nombres están claramente consignados con sus jeroglíficos.

(10) Veamos en extracto lo que sobre esta materia dije en mi *Historia antigua de México*, publicada hace veinte años como tomo primero de la obra intitulada *México á través de los siglos*.

Ocupaban en los tiempos primitivos los terrenos que hoy forman los Estados de Chiapas, Tabasco, Campeche y Yucatán,

razas monosilábicas, de las cuales las del occidente eran los *mox*, y las orientales los *mam*. *Mox* significa ceiba, y *mam* palo. Esas razas adoraban por dioses á los árboles. Habitadoras de las montañas y de las selvas, con una espléndida naturaleza ante su vista, los espectáculos más hermosos de ella y sus fenómenos más sorprendentes debieron dar origen á su religión y á su culto. Como recuerdo de aquellas primeras creencias, esas razas tenían por deidades á *Chac* el trueno, á *Cakulha-Chipa* el relámpago, á *Cakulha-Raxa* el verde rayo, á *Cakulha-Hurakan* la voz de los vientos y de las tempestades, á *Cabrakan* dios de los terremotos, á *Chirakan* dios de las erupciones volcánicas, á *V'gux-Cho* corazón del lago, á *V'gur-Palo* corazón del mar, á *V'gux-Kah* corazón del cielo, á *V'gux-Ulen* corazón de la tierra, á *Ah-Raxa-Lak* potente disco azul, el firmamento, y á *Ah-Raxa-Sel* la jícara verde, la misma tierra cubierta con el inmenso tapiz de esmeralda que le forman sus arboledas. La naturaleza con todos sus esplendores y con todas sus magnificencias era la suprema deidad de aquellos pueblos.

Los mayas, de acuerdo con sus tradiciones, llamaban al oriente *cenial* ó la pequeña bajada, y al poniente *nobenial* ó la gran bajada, porque, según Lizana, decían que por la parte de oriente bajó á aquella tierra poca gente, y por la del poniente mucha. Esto revela dos antiguas invasiones.

En época muy lejana, pero ya en la de la piedra pulida, emigró de la Asia central una raza anterior á los hindús, acaso empujada por ellos. Al pasar por Africa, quedó una parte en las riberas del Nilo, y de ella descendieron los egipcios. Otra llegó en barcas, y en esto están conformes las tradiciones, á la península maya y á la desembocadura del Usumacinta. Por eso se encuentran lejanas semejanzas entre algunas costumbres mayas y las asiáticas; y con el Egipto hay parecido, mas no igualdad; lo cual acusa, no filiación, sino un germen común. Más que invasión en masa, debió ser la pequeña bajada una inmigración civilisadora, la cual se distingue desde luego, como he dicho, por el uso de la piedra pulida, y además por el empleo del cobre. Por lo tanto la pequeña bajada no pudo tener lugar muchos miles de años antes de nuestra era, como algunos pretenden.

En esta nueva civilización dominan las construcciones sobre terramares, y por lo mismo debe buscarse su origen en una

localidad á propósito: las tradiciones están conformes en señalar la region del Usumacinta. El arribo de Votan y sus compañeros en barcas, se recordaba dándole también el nombre de Tepanaguaste ó señor del palo hueco. Toca primero en la península maya; y ahí queda parte de la expedición, bajo el mando del sacerdote Zamná. Votan sigue su camino; llega á la laguna de Términos, y se establece en la boca del Usumacinta. Votan, luchando en la leyenda con las corrientes del río, representa á la neuva raza extendiéndose poco á poco por sus riberas, y poco á poco sobreponiéndose y dominando al pueblo autóctono. Sube Votan el río hasta Catsaja, y ahí construye su primera ciudad; y más tarde, sin duda para huir de los desbordamientos del río, pasan los votanes su metrópoli á una colina poco distante, y levantan á Nachan, hoy llamada Palenke. Debieron pasar muchos años, centurias, para que esto se realizara.

La raza invasora se llamaba *chan* culebra, y tenía por religión la zoolatría. Votan dice: yo soy culebra. De aquella religión quedan huellas en las diedades *Tzimin* tapir, *Tzimin-Chac* tapir del trueno ó rayo, *Hun-Ahpu-Vuch* el poderoso dios zorra, *Hun-Ahpu-Utiú* el poderoso dios coyote, *Zaky-Nima-Tzyz* el gran javalí blanco; y Lizana dice que los mayas adoraban por dioses "á peces y á culebras, tigueres y otros animals," y que se les quedaron tan vivas las especies, que todavía en su tiempo cualquier muchacho indio pintaba con primor esos dioses animales.

Votan era un sacerdote, y por consiguiente el primer gobierno de los chanes fué la teocracia.

Según las tradiciones, los chanes se unieron por medio de casamientos con los hijos del país; y formado así un nuevo pueblo, Votan procedió á hacer la división de las tierras, y estableció el derecho de propiedad. Esto basta para comprender cuánto traían de adelanto los chanes á los aborígenes, lo cual puede resumirse en dos frases: la propiedad individual y la vida en la ciudad. Esta exigía un culto; la religión debía unir los intereses aislados, y el poder tenía que ser teocrático. Votan fué deificado. Un hombre superior ó la representación de una raza, de él hicieron una divinidad. También los mayas deificaron á Zamná, el rocío del cielo, á quien tenían por el primer rey sacerdote y civilizador; levantáronle suntuosas pirámides en Yzamal, y en una de ellas se ve esculpido su rostro gigantesco.

No debió ser Nachan la única ciudad de los votánidas, y así lo demuestran las ruinas que á lo largo del Usumacinta se encuentran. Desde aquella hasta el mar había una serie de ciudades; pero éstas en un principio debieron ser humildes, y su manera de construcción acomodada á las condiciones locales de la región, y á las costumbres correspondientes á aquella época semiacuere. El desbordamiento periódico del río obligó á los chanes á construir sus habitaciones sobre terraplenes; y de allí nació el *kú*, y más tarde la pirámide, templo y fortificación á la vez.

Dice la leyenda que Votan hizo varios viajes, y que á su vuelta encontraba mayor número de individuos de su misma raza. Esto parece significar dos cosas: que la inmigración continuó por algún tiempo, y que la nueva raza se iba extendiendo. La extensión debió ser primeramente en la misma zona hacia la península maya: y por eso se dice que Zamná fué hijo de Votan.

Estando ya sin duda en una época floreciente los votánidas de Nachan y los mayas de la península, cuando habían alcanzado ya gran cultura y tenían formada su lengua, llegó la gran bajada *nobenial* con la invasión por el poniente de los amecas de Tutul Xiuh. Un libro cuyo título es *Lelo lai u tzolan katunil te mayab*, nos ha conservado la cronología de esa invasión. Aunque yo había dado otras fechas, y á reserva de rectificar con mayores estudios, los amecas salieron de la región del norte hacia el año 639 antes de la era vulgar, y llegaron al Usumacinta 81 años después, es decir, el año 558 antes de la misma era: y de ahí subieron á ocupar toda la región de Nachan. Noventa y nueve años después, ó sea el de 459 antes de nuestra era, penetraron en la península los Tutul Xiuh por la parte de Chacnovitan.

Los efectos de la invasión meca son fáciles de comprender. Los chanes eran una nación: los nahuas, y en ellos comprendemos á los mecas, eran solamente una raza. Debían los invasores por consecuencia recibir la civilización de la raza vencida, y con ella su lengua. Pero les eran superiores en dos puntos importantísimos: en su religión astronómica, más elevada que la zoolatría; y en su cronología vigesimal, la cual ya por entonces había alcanzado gran perfección. Lógicamente debían sobreponerse en ambas cosas. Y así sucedió: los chanes adoptaron la aritmética y la cronología vigesimal de los nahuas. La fusión de ambas razas se verificó prontamente: un siglo después ya salían á

extenderse á la península. Pero no todos los chanes se sujetaron á la invasión. Un grupo numeroso, bajo el mando de su gran sacerdote Votan, se retiró á la costa sur del océano, al territorio de Zaklohpacab, y alsó por principal ciudad á Mam, que quiere decir antepasados. Allí llevaron y guardaron su religión zoolátrica y el culto del tapir, el cual conservaban todavía en los principios del siglo XVII, pues el Obispo Núñez de la Vega nos da cuenta de cómo tenían allí sacerdotisas con tapianes, y de cómo los sacerdotes se llamaban votanes.

La nueva nacionalidad, llamémosla así por la fusión de las dos civilizaciones, quedaba separada de la maya y dividida de ella por el río Usamacinta; y tenía por límites al norte las aguas del golfo, y al sur las del océano, y al poniente el istmo Dani-Guibedji ó montes de tigres. Era su metrópoli Nachan. En el centro de la región estaba la fortaleza llamada Chapa Nanduíme, y á corta distancia la ciudad de Amoxton. Y eran también principales las de Zotzlem y Chamhó, Alamken, Zakulen, Yazbité y Balum Canan, la cual tenía por jeroglífico una olla de la cual se derramaban varias estrellas, según se ve en un pequeño plato de una piedra semejante al ágata, causa sin duda de que los mexicanos lo tradujeran malamente por comitan.

La ciudad sagrada de Na chan cambió su nombre por Palemke. Ningún sitio podía encontrarse mejor para una metrópoli suntuosa. Desde sus alturas coronadas de templos y palacios de asombrosa magnificencia, abrazaba la vista una extensa llanura, perdiéndose en una serie no interrumpida de bosques y lomeríos hasta la ribera del Castajá. El rey sacerdote, de lo alto de su torre, dominaba la ciudad y descubría ese vasto harizonte, y podía vigilar los movimientos de cualquier enemigo, y contemplar los progresos de la prosperidad pública que á su alrededor se desarrollaba. La gran metrópoli y los campos que la circundaban se veían llenos de vida: en ellos resonaba ese inmenso murmullo de los pueblos, que es el aliento poderoso de la humanidad. Oíanse entusiastas cantares, que acompañaban las tumultuosas danzas en los palacios. Las altísimas escalinatas de los templos se cubrían de guerreros adornados de oro y riquísimas plumas de brillantes colores, al par que de matronas lujosamente ataviadas con collares riquísimos, tocados fantásticos, adornos de rojo cobre incrustados de turquesas, y sartas de perlas, esmeraldas y zafiros.

Y la muchedumbre asistía en masa á contemplar desde abajo de la pirámide, la pompa del sacrificio que celebraba en lo alto el sumo sacerdote, cubierto con su mitra de oro y pedrería, mientras los caracoles y bocinas, con sonido estridente, llenaban de estrépito el aire, acompañados por las cántigas de toda esa ciudad.

Nos podemos formar idea de la organización de le nueva nacionalidad palemkana, por la relación conservada por los cronistas, de la de la ciudad sagrada de Yzamal. La principal pirámide estaba dedicada al dios *Zamna*. Era la más antigua, porque todavía estaba construida con argamasa, y no tenía sus piedras labradas á escuadra. Había otras dos muy grandes pirámides, ya de piedras bien labradas, con los templos de sus deidades *Kab-ul* y *Kirich-Kakmó*. Una cuarta y muy grande servía de vivienda á los sacerdotes, y se llamaba *Ppapp-Hol Chac*. Era tan espaciosa su plataforma superior, que en ella se levantó el convento de San Francisco. La quinta era la del *Humpictok*, el jefe guerrero que tenía un ejército de ocho mil pedernales. Como se ve, con la invasión se formó la casta guerrera; pero subsistió la supremacía de la sacerdotal. En Palemke el jefe de la casta guerrera se llamaba *Chay Abah*, nombre que significa pedernal negro ú obsidiana. Y buena muestra nos da de esta organización social el relieve de la Cruz. A un lado de ésta, el sumo sacerdote ornado con su mitra, le presenta en holocausto á un niño; y en el opuesto está un guerrero ricamente ataviado, el *Chay-Abah*.

Unidas las dos razas, la civilización debía crecer de manera portentosa. A esa época debemos referir las pirámides, el palacio y los templos, cuyas ruinas son la admiración del mundo, pues en todas sus inscripciones encontramos la cronología vigesimal.

Resta inquirir cuando fué abandonada Palemke. Diversas invasiones del sur fueron penetrando en su territorio: los kichés, los cacchiqueles, y otras tribus. Tenemos una prueba fehaciente en los jeroglíficos del códice Porfirio Díaz: los cuicatecas, salidos del sur, pasan por Comitán para penetrar en el istmo de Tehuantepec.

Las crónicas mayas recuerdan otra invasión entre los años 936 y 1176. Ahora creemos que fueron los palemkanos, quienes arrojados por las tribus del sur dejaron una á una sus ciudades, hasta abandonar su metrópoli sagrada, y buscaron refugio en la península. La madre naturaleza cubrió con inmensos bosques las

ruinas, como para guardarlas bajo su amparo. La ciudad de Palemke, después de haber vivido esplendorosa quince siglos, lleva cerca de mil años de vivir la vida de la muerte.

(11) Este importante trabajo fué publicado en castellano, en el tomo II de los Anales del Museo Nacional de México, 1882.

(12) Proceedings of the American Antiquarian Society, 1894.

(13) No estoy conforme con todas las interpretaciones del Dr. Valentini, ni con todas las correspondencias que pone en su *scheme*.

(14) Aids to the study of the maya codices, 1884. Day symbols of the maya years, 1894. The maya year, 1894.

(15) Biología Central Americana. Archeology. Appendix: The archaic maya inscriptions by J. T. Goodman, 1897.

(16) Analysis of the day signs in the palenquen inscriptions. American Antiquarian, 1897.

(17) No cito aquí los importantes estudios de los señores Brinton y Seler, a los cuales ya me he referido antes, porque no tratan especialmente el punto que nos ocupa. Tampoco puedo aprovechar los trabajos de los señores Förstemann y Schellhas y otros escritos en alemán, porque no conozco este idioma.

(18) En la Piedra del sol, Calendario azteca ó Piedra ciclográfica mexica, como he propuesto llamarla hay cuatro cuadretes con signos de días, todos con el numeral 4. Representan los cuatro soles ó edades de los nahuas. No tendrán una significación semejante los cuatro glifos puestos á los lados del pie de la Cruz? Así podría creerse por analogía.

(19) No acepto el nombre de taquigráficos dado á estos signos, porque no corresponden á sonidos especialmente determinados. Para distinguirlos de los esculturales, mejor es llamarlos cursivos, porque son los usados en la escritura jeroglífica de los códices: si bien, como se ve, se emplean también en las inscripciones; así como los primeros se encuentran á la vez en dichos códices. Yo, para proceder con más seguridad, considero únicamente los cursivos que hay en el relieve; sin entrar en el examen de cuales puedan ser los esculturales, ni tomar en cuenta los glifos borrados ó muy maltratados. El dato auténtico que existe de los signos de los días está en Landa; sin su obra nunca hubiéramos podido adivinarlos: así, mientras más nos acerquemos á su forma en la comparación, ya sea de incripciones ya de códices, estaremos más

cerca de la verdad. Esto no es condenar las investigaciones importantísimas de sabios de reconocida reputación; es simplemente seguir un método seguro: fijar tal vez pocos hechos, pero ciertos y si es posible indiscutibles, para ir con paso seguro en el camino de nuestras investigaciones.

(20) Es enteramente lógico sostener, que signos de escritura iguales dan sonidos iguales, ó sea las mismas palabras. Este mismo argumento hace Mr. Goodman respecto de los signos de los meses, y lo sigue el Profesor Cyrus Thomas. Ahora bien, los pueblos que designan con las mismas palabras los mismos objetos, hablan la misma lengua. Por lo tanto, en la antigua ciudad de Palenke se hablaba maya. Ya había indicado esta idea el Profesor Rau, y con él otros escritores.

(21) Creía yo de jade esta caja; pero es de otra piedra verde.

(22) El primer signo *eskan*, y está formado con mármoles rojo, verde, amarillo y negro: del signo salen tres á manera de hojas, y de éstas tres hiervas que recuerdan el *xihmolpilli*. El segundo es *imix* está formado con los mismos mármoles, y sale de él jeroglífico de una estrella ó gnomón. El tercero está en la cara mayor, queda por lo tanto en el centro de los otros dos, y es *chicchan*. Está formado con los mismos mármoles y además otro gris, y substituido el blanco por un amarillo claro: salen de él tres hiervas ó plumas verdes.

(23) Es notable el número de variantes de los signos. No solamente se encuentran de inscripción á inscripción ó de código á código; sino en el mismo código ó inscripción. En los jeroglíficos nahuas de los días hay variantes, según el autor de la pintura ó escultura; pero en un mismo código, con muy raras excepciones, los signos son enteramente iguales, y solamente hay á veces variaciones en el color. En los mayas, por el contrario, parece ser regla la variante. Bien lo acredita en las inscripciones de Palenke la tabla del Sr. Gunckel; y en ellas se ve claramente no sólo la diversidad entre signos esculturales y cursivos, sino diferentes formas de estos. En cuanto á los códigos, tomaremos únicamente como ejemplo el Cortesiano. En esis de sus páginas tiene en cuatro líneas la serie de los días en su orden, repetida varias veces. Pues bien, el primer signo *lamat* es diverso de los siguientes, y éstos de los últimos. *Muluc* es diferente casi siempre. *Chicchan* varias veces está sencillo; pero en una se le ve agregado

un rostro. *Cib* cambia mucho de forma. Lo mismo pasa con *ik*. *Cauac* unas veces tiene una cruz, y otras dos. Y así sucesivamente. Ahora ocurre preguntar: ¿es esto casual? ¿obedece solamente al capricho del escultor ó del pintor, ó tiene algún objeto y significación? Para mí lo tiene, pues de otra manera no se podrían comprender racionalmente tales variantes en una misma inscripción ó en un mismo texto; pero que yo sepa, nadie las ha explicado todavía, ni yo las alcanzo.

(24) *Cimi*, y en esto van conformes todos los escritores, representa á la muerte. Muerte se dice *cimil* en el maya moderno. Este es uno de los pocos signos con forma de rostro, aunque reducido solamente á sus líneas principales. Los otros dos signos con forma de rostro son *eb* y *men*. En *cimi* se distingue siempre la mandíbula superior con dientes, usada por los indios cuando representaban una calavera. El ojo aparece cerrado, y con las pestañas caídas. En un curioso cilindro de barro, de unos 19 centímetro de altura por poco menos de diámetro, está en su parte superior de bulto la muerte *cimi*, en la misma posición del conocido dios maya *Kinich Kakmó*. Debajo hay 16 ondas azules, de las cuales penden 12 borlas color de grana. Entre cada cuatro ondas se ve una calavera blanca, y abajo de cada calavera una figura muerta, de alto relieve; y en medio de cada una de ellas una máscara. Figuras y máscaras son una azul, otra roja, otra amarilla y otra verde oscura. Las figuras, para significar que representan á muertos, tienen los ojos cerrados, y de ellos caen largas pestañas como en el signo *cimi*. En una faja blanca que rodea el cilindro, hay varias ruedas amarillas á manera de flores, con puntos rojos. Bien pudieran ser expresión del *tzompanzochitl*, la flor amarilla de los muertos. El signo escultural de *cimi* se distingue también por los dientes, y por llevar en la parte superior una de esas como flores con puntos.

(25) Creo importante á este propósito hablar del *teponaxtli* de Zacapoaxtla. Pertenecía á una familia de indios, la enal lo alquilaba para las fiestas. Lo había pintado de color verde, que se quitó con dificultad, raspándolo con un cuchillo y lija. Es de tepehuaje rojo, madera propia de las costas de Veracruz y Tabasco. Tiene esculpidos en relieve unos jeroglíficos, los cuales, en mi concepto, expresan la corrección del cómputo de venus, y cómo se retrasaba la fiesta octenial; hecho que indica Sahagún

sin explicarlo. En cada una de las cabezas del *teponastli* está el signo *lamat*, de forma escultural. Así se ve, cómo las ideas nahuas penetraron en la civilización del sur, y se mezclaron con las de ésta.

(26) A propósito del nombre *been*, debemos hacer algunas observaciones comunes á todos los de los días. Conocemos éstos por la obra de Landa, quien nos da con precisión su ortografía; y por lo mismo nadie puede tener autoridad para variarla, sin pruebas plenísimas y fundamentos incontestables. Pío Pérez en su Diccionario los repite sin modificación. He hablado con varios yucatecos doctos, y todos dan los mismos nombres. Ciertamente, si se agrega ó quita letras á una palabra, puede con esto explicarse cuanto se quiera. Tomemos, por ejemplo el nombre de la ciudad Balum Canan, una de las principales de la región palemkana; y si le agregamos una a á Canan, resultará Caanan: de donde podría deducirse la venida a nuestro continente de las tribus judías perdidas. Pues lo mismo ha pasado con *been*: se le ha suprimido una e, para igualarlo con el día chiapaneco y con el heroe kiché Ben. El Sr. Brinton fué más adelante: trató de referir los nombres á la forma y explicación del signo y á las tradiciones y monumentos arqueológicos, en su erudito estudio "The pillars of Ben." Pero debemo convencernos: ni las líneas inferiores del signo *been* son pilares, pues están en posición diagonal; si esas líneas fueran pilares, debían serlo también las superiores, y nunca se han visto coolumnas pendientes del techo; ni puede haber conexión entre pilares, los cuales necesariamente se construyen para sostener un edificio, y las piedras aisladas y puntiagudas levantadas en medio de los valles con el carácter de votivas; ni la palabra *ben* es igual á *been*.

Todas estas elucubraciones, las cuales prácticamente á nada conducen pues no nos hacen adelantar en el conocimiento de la ideología maya, han provenido de la falta de significación conocida de la mayor parte de los nombres de los días. Ya lo había visto Pío Pérez, y los suponía de alguna lengua arcaica perdida.

Pero reflexionemos que en nuestras mismas lenguas modernas pocas son las palabras de etimología clara y bien reconocida. Los pueblos van inventando las palabras para designar los objetos y expresar las ideas: después no se sabe como lo hicieron. Esto

mismo debió suceder con los nombres de los días mayas; pero en este caso tenemos algunos datos que pudieran ser importantes.

Hay algunos nombres puramente monosilábicos; y precisamente esos tienen significación conocida. Estos nombres son:

kan, piedra preciosa, y según algunos culebra: traducción que acepto, por encontrar la palabra *kanalcan* serpiente.

oc, pié, pierna, rastro, huella.

eb, escalera, escala, escalón. Como las pirámides de Palenke estaban formadas de escalinatas, bien pudiera ser pirámide.

ix, orina; pero como de *ahua* rey se hace *ixohan* reina, puede ser mujer.

men, artífice.

cib, copal.

ik, viento, espíritu, vida.

Encontramos además dos nombres compuestos con dos de estos monosílabos: *man-ik*, é *im-ix*, sin que podamos fijar con precisión su significado: si bien *im* quiere decir teta.

Los otros once nombres no tienen significación conocida.

¿Cómo explicar ésto? A mi juicio, los siete monosilábicos pertenecían al calendario primitivo de los chanes: los invasores, al introducir la cronología vigesimal, formaron los dos compuestos, para hacer el período de nueve días, tan importante en el cómputo sagrado; é inventaron los otros once, tal vez tomándolos de su lengua polisilábica.

Lo que hemos dicho de los nombres de los días, debemos aplicarlo á los signos que los representan.

Unos quieren hacerlos figurativos, otros simbólicos, otros ideográficos, y aún hay quién los llame taquigráficos. Desde el momento en que hay tan numerosas variantes, no solo entre los esculturales y los cursivos, sino en éstos entre sí, al grado de ser muy diferente su forma en varios casos, no podemos admitir esas clasificaciones; y debemos sacar como consecuencia forzosa, que los signos son puramente convencionales. Bien han podido tener en ciertos casos, como en *cimi*, por origen la representación de un objeto; en algún otro ser ideográficos, como *lamat*; darnos acaso únicamente las líneas principales de una figura, como *kan*; ó ser tal vez un simbolismo, como *eb*; pero su caracter general es el convencionalismo. Los que arreglaron el nuevo calendario vigesimal, convinieron veinte signos para representar los veinte

días; y estos signos fueron con el tiempo teniendo algunas variantes.

Mas de lo expuesto nos vienen algunas reflexiones. Si nos fijamos en cómo solamente siete nombres de días son monosilábicos y tienen significación conocida en la lengua maya, ocurre preguntar: ¿no tendrían los chanes una semana traída del viejo continente? ¿los invasores no agregarían los dos signos compuestos, para formar el novenario, base de su calendario sagrado? ¿y después no completarían la veintena con nombres tomados de su lengua propia? No se debe olvidar que, según Landa, los mayas tenían también meses de 30 días, llamados *u*: y que todavía los chichimecas de Xolotl, cuando penetraron en el valle de Anahuac, traían lengua especial; y fué necesario que más tarde se introdujera en Texococo la enseñanza oficial del nahuatl.

A la vez parece lógico inferir, que si los xiuhs introdujeron la cronología nahua, debieron necesariamente llevar con ella su aritmética vigesimal. Esta se basaba en la suma de los cuatro dedos largos de la mano con el pulgar, $4 + 1 = 5$, como creo haberlo probado en mi Historia antigua de México con el examen etimológico de los nombres de los números; continuaba tomando por múltiple el número 4, $5 \times 4 = 20$; seguía, no multiplicando por 5, lo cual hubiera dado 100, sino también por 4, y así salía el ciclo de 80 años consignado en las pinturas de los cuatro soles; y finalmente, para formar los grandes números y los grandes períodos, se multiplicaba $4 + 1 \times 4 = 20$ por $4 + 1 \times 4 = 20$ lo que daba 400, y 400×20 ó sea 8,000. Esta base del sistema se ve muy de bulto en la escritura palemkana: los dedos largos se marcan con puntos, 4 dedos 4 puntos, y el pulgar con una raya que forma el 5; y así se sigue agregando puntos, hasta 4, por los dedos largos, y rayas por el pulgar, para formar los números 10, 15 y 19.

Estas dos consideraciones anteriores nos traen á la resolución de un punto muy importante y muy debatido: ¿en dónde se formó el calendario vigesimal, en la civilización del norte ó en la del sur?

Generalmente los autores extranjeros creen la cronología vigesimal de origen maya. Pero la existencia de una anterior traída por los chanes, semejante á la asiática, destruye esa suposición. Además la aritmética vigesimal es anhua. Acaso vino de los

atlántidas en época anterior á la inmigración de los chanes, pues en las costas occidentales de Europa la recibieron los celtas y los vascongados; y la misma emigración que llevó el nombre de Tula al sur de Rusia, llevó también al Cáucaso la cuenta vigesimal. Hay innumerables pruebas de la invasión nahua en el territorio del sur: no existe solamente la tradición; la lengua maya tiene muchos nahualismos, y los hay de la misma manera en Costa Rica y Nicaragua. En cambio, ni tradiciones ni huellas existen de que los pueblos del sur llegaran al territorio meca ni al nahua del norte, ni en sus lenguas hay elementos de las del sur. Los últimos estudios de craneología hechos por el sabio antropólogo Mr. A. Hrdlicka lo comprueban. Podemos pues estar ciertos de que esa cronología es de origen nahua, y fué introducida entre los mayas por los xiuhs.

He querido hacer estas consideraciones históricas, porque el gran talento y muy extensa instrucción de algunos sabios, los ha llevado ádesarrollar el sistema de los indios hasta dónde pudieran hacerlo hoy los más adelantados europeos, olvidando las facultades propias de las razas indígenas y el medio en que se desarrollaban. No hay que olvidar, que la cronología no se puede estudiar separadamente de la historia, porque en último resultado aquella es solamente una ciencia auxiliar de ésta.

One of the Sacred Altars of the Pawnee.

BY

DR. GEORGE A. DORSEY.

I was moved to give a brief outline of the Wichita creation myth, but it has occurred to me that I might follow Miss Fletcher's very interesting and extremely important paper with a further word regarding the Pawnee. I have consulted one of the Committee in regard to this point, and I am assured by him that, perhaps, there can be no objection; and, in case there is none, I shall go ahead on that line, saying a word or two respecting this very interesting subject.

I want to mention just one point regarding this North Star altar, of which Miss Fletcher has told you. Since Miss Fletcher's visit to the Pawnee, the keeper of the North Star altar, who knew the ritual, has died; and, as far as I can learn, the entire ritual of that altar has gone with him to the grave.

This simply illustrates how important it is that the study of the Pawnee should be pursued as rapidly as possible.

When the Pawnee left Nebraska and went into Oklahoma they carried with them these altars, or "bundles," as they are popularly called, and, though they have been religiously guarded by the tribe, the ceremonies had been largely given up, and it is only within the last three or four years that they have revived the ceremonies, and I think they are themselves surprised at the amount of knowledge which they retain of the old rituals.

I have seen two or three of their ceremonies where these sacred altars are opened and where they sing their songs; and of one of these I shall speak, where the altar called the "skull bundle" is displayed. Early in the spring devotions are held, when Tirawa has returned from his seat in outer darkness and speaks to the people. When he first speaks and the thunder comes then this altar is exposed and the ceremony takes place; then follow other ceremonies, according to the year, or according to the disposition of the people.

Earlier in the spring occurs a ceremony where the ground is prepared in ceremonial fashion for the planting of corn. For, although the Pawnee have been on the Plains for a great many centuries, they still look upon corn as most important, much more important indeed than the buffalo.

Those of you who are familiar with the sun-dancing tribes are well aware that the sun dance is given because of some pledge taken by some member of the tribe, either a man or a woman. The ceremony, which I speak of, is brought about in a somewhat similar manner—through the desire of some woman of the tribe (for any one of various reasons) to give this ceremony. She may have had a dream, and Tirawa may have spoken to her, or she may have had it "in her heart," as they say, to give it. While this spirit is upon her she feels very much elevated and removed from ordinary mortals. She does not speak a cross word, or have an unkind thought—for reasons which we shall presently see.

Having decided to give the ceremony, she speaks of it to no one except to her husband. He kills a buffalo in a certain manner, and the meat of the buffalo is made holy. Then, in proper time, the woman goes to the chief owner of the altar and takes with her a filled pipe. The owner always recognizes the object of her visit when she comes bearing the pipe, and naturally he is pleased to receive her and to receive the pipe, for he knows that a great honor is to be conferred upon the tribe. After smoking the pipe and talking the matter over, she tells him the object of her visit.

After she leaves, and perhaps that day, this chief owner or keeper of the altar calls in the other owners. These other owners are either brothers or cousins; and there may be three, or five, or six owners of any one of these altars. They talk it over and decide upon the time of the ceremony. Then they send for the messenger of the priests, and ask him to go out and call in the five priests. He does so, and they come in and smoke, and decide upon a day. No one in the village as yet knows anything about it; but on the following morning it becomes common property, for it is announced through the village that the ceremony is to be held and the time is stated.

On the morning of the day set for the beginning of the cere-

mony one of the younger owners, accompanied by the chief owner, goes through the village, looking here and there through the earth lodges. It is their desire to pick out the largest lodge and that one which has the largest number of sacred altars—one that would approximate a temple or holy place. They inform the owners of the lodge selected that they desire to use it, and the lodge is at once carefully swept and prepared for the ceremony.

That afternoon the owners of the altar enter the lodge. The messenger of the priest is asked to go after the priests; upon their arrival all engage in smoking. Shortly after, the woman who has undertaken to provide for the ceremony and who will be called the Giver of the ceremony, enters. The priest's messenger is now sent to the owners of the four-direction altars to obtain buffalo scapula hoes, one of which forms part of the contents of each altar.

The owners then talk the matter over and decide upon four women to use these hoes in the ceremony of the following day. These women must be well-to-do, amiable, of large families—women who have power in the tribe, who have exerted influence for good, who are motherly women. The priest's messenger goes after these women. On their arrival they are addressed by the owner of the altar, who tells them why he has sent for them, and, without being asked, they reply that they are glad to be honored and will contribute their share towards the ceremony. The first woman generally offers to provide for the feast a certain amount of buffalo meat; the second, a certain amount of corn; the next one, a certain amount of buffalo meat; and the fourth one, in turn, a certain amount of corn. Many rites are performed on this night, but, inasmuch as the performance may be regarded as a rehearsal, we may pass on to the ceremony of the following morning. After the rehearsal, which perhaps lasts till midnight, and in some cases all night, all retire to their respective homes, except the owners of the altar. They remain in the lodge over night.

About three or four o'clock in the morning following the rehearsal, and before any one in the village is supposed to be astir, one or two of the younger owners go west from the village until they come to a stream, and along that stream they must find a steep "cut" bank and deep water. At such a place they cut

willows, three or four feet in length, and return with them to the earth lodge. Within the lodge they prepare these willows into four bundles.

Now comes the *secret* performance of this ceremony; for, so far as I know, each Pawnee ceremony has its own secret, which not even the priests may know, which is confined to one or two men, and which in this particular instance only the two elder owners know. The others were sent out of the lodge on some pretext.

The willows were divided into four bundles, and inside each bundle were placed a small bit of buffalo tongue and a small bit of buffalo heart. The bundle was then wrapped with rope made from the hair of the buffalo. Then the bundles were fastened to the main supports of the earth-lodge, there being one bundle for each one of the uprights. In fastening the bundles they use bark of the willow for wrapping, in order that the black lariat rope inside may be concealed, because the black lariat rope is part of the secret.

This having been done, the messenger (who is supposed to be near by) is now called in and is sent to warn the priests that they are about to begin. The Giver has been on the look-out, and she is ready to enter the lodge. She enters before the priests enter, and takes her place at the northwest upright. She is asked to remove her clothing, and she is painted with red earth mixed with tallow, from head to foot, by the owner, he being the only man in the lodge at this time. Her hair is then parted and a line of red is drawn down the top of her head. The priests, five in number, now enter, and take up their position at the west of the lodge. The messenger, who generally sits at the north side of the entrance, goes out and informs the four women who promised the night before to contribute to the feast, that they are about to begin. All the women in the camp, in the meantime, are now entering the lodge, because, as has been said, the fact that the ceremony is to take place on this day is known throughout the village, and, as this ceremony is one that particularly concerns women, they are all eager to enter.

In the meantime the messenger has been despatched to the house for the keeper of the sacred altar, for these sacred altars are in the keeping of women. The altar is brought in and is

placed in the west of the lodge and in front of the place to be occupied by the priests. Five gourd rattles are brought in and are placed in front of the altar.

As the altar is brought in it is in the form of a bundle, the outer wrapping being of buffalo hide, perhaps four feet in length and three or four feet wide. In the five bundles I have seen opened there were two wrappers in each case, the inner wrapper shaped like the other, but somewhat smaller. It is folded at the side, and then tied with five wrappings of buffalo thongs. Inside the wrapper we find the contents of the bundle, which varies in each particular altar. Upon this bundle, as it rests in the house of the keeper, is a human skull, very old-looking and black with age. This skull is removed and is placed by the side of the bundle.

As the women enter they assume the following positions: Of the women who are to use the hoe, *i. e.*, the women who had been sent for the night before, and who had promised to furnish a certain amount of food for the ceremony, two stand at the southwest and two at the northwest corner of the lodge. Four additional women are now chosen, and two stand by the first two women above mentioned and two by the other two women.

In the meantime the messenger has been sent out in the village and has been asked to bring a basket—one of the little trays which is in common use among the Pawnee for the dice game. The basket must be new, and must be in perfect condition. The messenger goes from house to house until he finds such a basket. Then he goes to the owners of certain of these altars and secures two fawn-skins and two swan-necks. As the messenger enters he places the basket, with the two swan-necks and the two fawn-skins, at the north end of the bundle. The bundle is now opened and the contents are exposed in a certain prescribed fashion.

The owner then makes a speech and says they are ready to begin, and virtually turns the ceremony over to the priests. They act now for the owner and the owner has no longer control of the ceremony.

After the usual rite of smoking, the hoes and skins and swans' necks are distributed. Two of the hoes are given to the two women on the south and two to the women on the north, while to the two additional women on the south is given one swan neck

and one fawn-skin, the other swan neck and skin being given to the two additional women on the north side.

Then, everything being in readiness, the five priests take up their rattles and begin to move them in a circular or rotary motion. This is the beginning of the first song. Up to this time the women have been sitting; at the beginning of the singing they stand. As the rattle is heard on the outside men crowd into the lodge and stand between the outer and inner door, some even crowding forward into the lodge, but they have really no right in the lodge.

During the singing of the first song there is no movement on the part of the women, only a slight movement on the part of the Giver, and on the part of the women of the swan's necks and with the hoes. Each song consists of ten verses, or ten "steps," as they say—four of the "steps" belonging or being devoted to the women, and six of the "steps" to the men.

At the conclusion of the first song, with scarcely a pause, the second song of ten verses begins. The rattles are now shaken upward and downward. The women now dance with a somewhat complicated movement. It is aimed to represent the movement that a woman makes when she goes into the field and begins to prepare the field with the hoe. The women with the hoes move them in accordance with this idea. The song, of course, is full of meaning, and much of it is suggested by the first song.

At the end of the second song, or at the end of the first dance, the priests deposit their rattles in front of them; the men all leave the lodge; the women sit down. There now comes an extremely interesting rite. This is the smoke offering, which is made to about twenty gods. Of all the rites which I have seen in connection with many ceremonies in many parts of the country I have never seen one so interesting or so well performed as the smoke-offering of the Pawnee. The offering is made by the owner; and with a pipe which belongs to the sacred bundle, which is lighted at the fire-place. In connection with this complicated rite I shall mention a single detail.

I noticed the fact, in this ceremony, that a great deal of attention was paid to a spot just north of the fire-place; that the buffalo meat was deposited there; that the sacred buffalo tallow was deposited there; that smoke was offered there; and I finally discovered

that they assume a buffalo skull to be lying in that position. This skull, thus placed, is the home of Tirawa. Then there is a spot, about half-way between the fire-place and the altar, to which a great deal of attention is paid by the priests; and I noticed that they never stepped on that spot, but that after certain rites, as, for instance, this smoke rite, they would touch it with their hands. Here, at times, Tirawa is supposed to stand, although his spirit is supposed to be within the buffalo skull.

It may be mentioned further that in certain ceremonies they assume this position to be occupied by a gourd, which is supposed to contain the spirits of all the dead doctors. There are five pebbles in this gourd, which correspond to five priests who sit in the west. Those five priests represent certain elements such as thunder, lightning, etc., that bring on the storm.

The ceremony now proceeded as before, the third song being without dancing, the fourth song with dancing, and so on to the end of the eighth song. At the end of the eighth song the swans' necks and the fawns were deposited in the basket, which has been held by the Giver.

Without proceeding further with the routine of the ceremony, we may now devote the remaining time to the symbolism of the performance. The whole ceremony prepares the fields for the planting of the corn. Thus the basket is symbolic of the earth; and in or upon the earth they place only those objects which are of an especially symbolic nature. Thus, the upper portion of the world is represented by the two swans, while the products of the earth itself are represented by the two fawns. The swans fly very high; they go from north to south, and from south to north and traverse the entire world; they see the entire world. Consequently, they typify everything above the ground. The fawns also have a symbolic value. According to a Pawnee myth, there were three deer which the first man saw. One was white, another was black and the third was half white and half black; the third one was shot by an arrow. When the Pawnee go out on the hunt they are very much pleased if the first animal they encounter is a deer, for it is a sign of good luck and a sign of plenty. Consequently the fawn, in this particular instance, symbolizes food and symbolizes the fulness of the earth. The woman, painted red, becomes, during the ceremony, the wife of Tirawa on earth.

After the ceremony comes the planting. Then, while the corn is growing, they go out on the buffalo hunt. If they are successful they know that Tirawa looked down upon the ceremony favorably; that he has been actually the husband of this wife, and after this time she occupies a very important position in the tribe.

In Reply to a Question by Doctor Kroeber:

Mr. President: I am pretty sure that you find this great spirit, Tirawa, occupying a higher position among the Pawnee than you do among other Plains Indians. The religious system of the Pawnee is more highly developed than that of any of the Plains tribes. I have made a very careful attempt to find out something about Tirawa. I have only been partially successful. The word is defined as "All embracing"; it includes everything above the earth. That the Pawnee obtained any of their idea concerning Tirawa, or, in fact, concerning any forms of their religion from the whites, I do not for a moment believe.

La Collection de M. de Sartiges et les “Aryballes” péruviens du Musée ethnographique du Trocadéro.

PAR

LÉON LEJEAL, CHARGÉ DE COURS AU COLLÈGE DE FRANCE.

Le Musée national d'Ethnographie du Trocadéro possède une petite collection d'antiquités péruviennes, jusqu'ici peu connue et mal étudiée des Américanistes. C'est un don des enfants de M. de Sartiges qui, l'ayant héritée de leur père en 1873, l'offrirent au Musée en 1894.

Né en 1809 d'une vieille famille parlementaire d'Auvergne, le comte Eugène de Sartiges appartenait à cette diplomatie lettrée et nourrie de fortes études qui a donné tant d'adeptes aux sciences historiques. Son nom, d'ailleurs, ne doit pas être inconnu aux Etats-Unis où il eut l'honneur de représenter la France, avant d'être appelé à l'Ambassade de Rome et, enfin, au Sénat du Second-Empire. Accrédité au début de sa carrière, auprès de plusieurs Etats hispano-américains, il s'éprit, comme le baron Gros, son aîné, comme Angrand, son contemporain, du passé de ces pays. Il y accomplit plusieurs longues expéditions d'artiste et d'antiquaire qu'il a racontées d'une plume alerte, avec un sentiment très vif de la nature et de l'histoire, en d'importants articles de la “Revue des Deux-Mondes.”

Celui du 1^{er} mars 1851, intitulé “*Bolivie et Pérou*,” et celui du 15 juin de la même année qui a pour titre: “*Les ruines de Choquiquirao*” exposent comment fut formée la collection Sartiges. Le premier nous mène de Puno à La Paz et de Puno au Cuzco. La description des plaines marécageuses que le Titicaca a formées autour d'Ancora et qu'il augmente chaque jour de ses alluvions, celle de Juty et de sa banlieue, semée des débris de la civilisation incasique, le périlleux passage du Desaguadero, enfin la traversée du lac, sur la traditionnelle “balza,” pour le pèlerinage

aux îles saintes de Titicaca, Coati et Taquiri, remplissent en ce récit des pages attachantes et sincères. Chemin faisant, le comte de Sartiges creusait la terre, lorsque s'y prêtaient les circonstances et le bon vouloir des naturels. Il mit ainsi à nu bon nombre de "*Chulpas*" près du lac sacré, notamment autour des "*haciendas*" de Cumana et de Guabaya, puis, un peu plus loin du Titicaca, au nord-ouest de Puno, entre Attuncolla et Selustani, au bord de la "*laguna de Umayo*." Il recueillit en ces diverses localités la majeure partie des pièces que notre grand Musée français tient de lui. A Choquiquaroo, qui fait l'objet de la seconde relation il fut moins heureux, malgré les espérances qu'il fondait sur son excursion dans ce "petit royaume de rochers et de précipices" que l'Inca Sayritupac défendit pendant sept années contre Hurtado de Mendoza, marquis de Cañete. Notre voyageur explique, d'ailleurs, sa déconvenue par la fuite de tous les habitants de la ville, qui se seraient retirés, en emportant leurs biens les plus précieux, vers des régions plus orientales et plus inaccessibles encore, après la soumission volontaire de l'Inca.

Quoi qu'il en soit de cette hypothèse, si M. de Sartiges, sauf en un seul cas, n'a pas toujours indiqué avec la précision d'un professionnel, les sites où s'opérèrent ses trouvailles, on peut, avec certitude, les rapporter toutes au Pérou intérieur. C'est surtout par rapport à cette communauté d'origine que l'examen de la collection Sartiges mérite notre attention.

Elle comprend un premier groupe d'objets,—céramiques et autres,—dont le caractère répond nettement à toutes les idées reçues sur l'art des Hauts-Plateaux et confirme la réputation d'adresse et de goût dont jouissent les vieux ouvriers montagnards.

Je remarque d'abord, dans cette série, deux de ces lampes, ou mieux de ces brûle-parfums, dont la forme de llama accroupi, maintes fois rencontrée par M. Ch: Wiener, après Angrand, dans les parages du Titicaca et du Cuzco, est en quelque sorte classique. L'un est taillé dans un basalte noir très compact; l'autre, fait d'albâtre d'Ayacucho. Ils présentent tous deux au milieu, du plan dorsal, la petite cavité circulaire d'usage, destinée à recevoir l'encens. Ils sont d'un beau poli et le premier du moins, malgré la dureté de la matière, d'un travail très poussé qui indique nettement jusqu'aux fanons de l'animal. Bref, on peut les comparer,



PLATE I.—1, 2, 4, Céramiques de la Collection Sartiges (Haut-Pérrou); 3, Terre noire (Collection Pinart) du Bas-Pérrou.

pour les dimensions¹ et l'aspect, à ceux que Wiener a figurés dans son livre,² notamment à la page 572. Voilà donc des objets qui portent en quelque sorte avec eux leur certificat d'origine et dont la classification ne soulève ni difficulté, ni étonnement.

Viennent ensuite un nombre assez grand de pièces céramiques, de forme variée gobelets, écuelles, gourdes, coupes, mais toutes décorées dans ce style géométrique avec lequel nous ont familiarisés des collections plus célèbres. De larges bandes de couleur, claires sur les fonds sombres, sombres sur les fonds éclatants, suivent soigneusement le contour des vases, la courbure des goulots, la base des cols, et sont coupées par d'autres rubans longitudinaux qui descendent le long de la panse jusqu'au pied. Ces liserés déterminent de petits panneaux dans lesquels sont tracés d'une main ferme, triangles, losanges, croix de Saint-André, croix de Malte, fers à cheval, créneaux aux nuances délicatement associées : le vermillon qui s'enlève avec vigueur sur le rouge brun naturel de la terre cuite ; l'orange, le bleu, le jaune d'or, le vert et le lilas, que le potier oppose volontiers au noir et au bleu foncé. On trouve aussi un autre système d'ornementation géométrique, dont les grecques, les dentelures, les volutes et les entrelacs évoquent la céramique de l'Ancien Monde. Un motif assez fréquent s'inspire de l'imitation des formes végétales ; ce sont des tubes cylindriques ramifiés, dessinés en traits noirs sur fond orange ou jaune et qui, probablement, visent à reproduire des tiges de roseaux ou des branchages. Parfois la décoration peinte est complétée d'ornements moulés en creux ou en relief, empruntés au règne animal. Un col de vase (No. 36,362 de l'inventaire) montre adroitement façonnée dans une terre rosâtre, à l'engobe rouge vif bien lustré, une très vivante tête de boeuf. Ailleurs c'est une coupe d'élégante facture qui porte une anse latérale coudée que termine une tête de llama violacée. Mais le plus beau specimen de représentations animales nous est offert par le No. 36,358, récipient sphérique à engobe blanchâtre, de 22 centimètres de hauteur sur 43 de circonférence, et contourné en son milieu par une bande éclatante de vermillon. A l'anse tubulaire où se creuse l'orifice très faible du bidon s'appuie un

¹ 12 centimètres de longueur pour 11 de hauteur dans le premier cas ; 8 et 6 $\frac{1}{2}$ centimètres dans le second cas.

² *Pérou et Bolivie*. Paris, Hachette, 1880. Voir aussi les albums de Rivero et Tschudi et de Reiss et Stübel qui renferment des types semblables.

oiseau du genre rapace, carrément assis sur la partie supérieure du globe. Il témoigne d'une très exacte observation des choses. Tandis que le reste du corps a été laissé en blanc, des stries noires tachent la poitrine. Les yeux, le bec, les ailes et les serres de l'animal ont été minutieusement détaillés, puis peints au vermillon.

Toutes ces pièces sont, techniquement, d'une terre épurée, d'une bonne cuisson. A la régularité de facture, à l'élégance robuste du contour si souvent louées chez les céramistes du plateau, ils joignent l'épaisseur de la paroi, qu'on cherche en vain dans les poteries de l'art Chimu, et cette patine admirablement lustrée, si voisine comme effet du vernissage, que les potiers d'Ancon n'obtiennent jamais qu'exceptionnellement.

Mais à côté de ces monuments que l'art du Haut-Pays a, pour ainsi dire, signés de son habileté manuelle, de ses procédés, de son goût généralement très sûr, une autre série céramique de la collection Sartiges s'éloigne, par des détails plus ou moins importants soit de décor, soit de fabrication, des types montagnards. Et pourtant les échantillons de ce second groupe ont la même provenance que ceux du premier.

Les abondantes trouvailles du Dr. Macedo dans la région côtière comprennent, on le sait, un nombre considérable de vases à anses tubulaires, dont le corps affecte une forme cubique. Sur ce socle, la fantaisie de l'artiste chimu a pétri des animaux ou des personnages humains, qui tantôt prolongent la tubulure, tantôt en sont indépendants. Un faciès humain,—et probablement féminin,—très expressif, est sans cesse reproduit en ce genre de roteries. C'est un triste visage hébété, aux paupières bouffies, au nez pointu dominant des lèvres minces, qui enferment une large bouche. Il est coiffé d'une espèce de fichu attaché sous le menton qui ne laisse passer que quelques boucles de la chevelure, assez conventionnellement exécutées du reste. Or cette tête de Truxillo, trop singulière pour être oubliée, quand on l'a une fois vue, nous la retrouvons en pâte plus dure et d'un modelé plus serré, sur le piédestal d'un des vases Sartiges (No. 36,359).

Autre constatation du même genre, à propos du numéro suivant. Il s'agit d'une gourde rouge, de 26 centimètres de hauteur, à encolure tubulaire bifurquée qui se dresse non sans élégance, sur une base assez mince. Le corps du vase, en forme de disque,

présente sur ses deux flancs plats le même médaillon estampé. Dans un cercle qui est peut-être la voûte céleste, semé d'une pluie de corpuscules qui sont peut-être des étoiles, s'allonge un fantastique animal à la tête menaçante garnie de fortes machoires, à l'oeil énorme, à l'épine dorsale saillante, aux pattes vigoureusement membrées et armées de griffes. Comme il est presque constant dans l'art péruvien, la bête est représentée avec deux membres seulement qui figurent en réalité les deux paires. Elle déploie derrière elle une longue queue courbe dont chaque vertèbre est détaillée. D'autre part, elle est coiffée de cet ornement difficile à définir et que certains américanistes prétendent identifier avec un attribut solaire, tandis que d'autres y voient simplement un casque rond, surmonté d'un cimier. Tous les éléments de cette décoration, jusqu'au petit singe qui, près de l'encolure, paraît s'apprêter à une escalade, répètent les motifs de plusieurs autres pièces appartenant au Musée de Paris, notamment ceux de deux terres noires chimu, offertes par M. Alphonse Pinart (Nos. 2,801 pot 2,802).

Enfin, M. de Sartiges avait encore recueilli dans la région du Titicaca certain "silvador" (No. 36,371) qui, non seulement par sa forme et son ornementation, mais même par sa technique, semble sorti d'une "*huacha*" de Moche ou du Gran Chimu. Cette pièce sphérique, épaisse de 38 centimètres, haute de 24, est d'une terre jaunâtre assez mal cuite, extrêmement légère, assez mince, poreuse et rude au toucher. Les bandes rouges à liseré noir qui courent sur la panse, donnent l'impression d'un peinturlurage hatif et grossier. Ils encadrent quatre reliefs assez informes, montrant quatre guerriers vêtus du "*puncho*," coiffés d'un diadème ou d'un casque, armés de la massue et qui de la main droite, portent par les cheveux une tête coupée. Des deux becs du "silvador," l'un en arrière s'élance obliquement au plan de l'ensemble, pour s'amincir vers le sommet, et évoque une flute de roseau, avec ses cannelures en relief, filetées de bleu. L'autre, réuni au précédent par une anse plate, perforée en son extrémité, est fermée par une tête de perroquet noir et blanc, d'une polychromie incomplète et d'un faire assez médiocre. Il n'y a pas besoin d'insister plus longtemps: la parenté de cette céramique avec celle de la région maritime est évidente.

Pour expliquer ces similitudes et ces rencontres, on a le choix entre hypothèses: ou bien les pièces Sartiges que nous avons décrites en dernier lieu, sont l'oeuvre des potiers de la côte, transportée sur les confins continentaux de la Bolivie et du Pérou par voie de trafic ou d'échange,—ou bien elles émanent d'un art mixte qui combinait à la fois les styles et les procédés des deux écoles. De toute façon la collection du diplomate archéologue prouve à nouveau la fréquence, l'activité des relations entre toutes les parties du Pérou dans l'antiquité.

Elle nous aiderait-elle également à comprendre comment et où prirent contact ces deux civilisations des "Chimu" et des "Aymara-Kitchua" dont le livre de M. Wiener exagère, je crois, les contrastes. Elle renferme une troisième série de pièces appartenant à ce beau type péruvien dans lequel l'observateur est tout étonné de retrouver, à quelques détails près, un type célèbre de la céramique de l'Ancien-Monde: "l'aryballe". Les aryballes péruviens, comme ceux de Corneto, de Cervetri, de Cotinthe et du Dipylon, sont des vases à fond conique et à anses latérales. Comme eux, ils se recommandent par une excellente technique, une terre bien épurée et bien cuite, une fine patine. Ils s'en écartent d'ailleurs par une épaisseur de parois, une lourdeur de poids que n'offre jamais la facture des oeuvres italo-grecques. Enfin on y chercherait vainement une trace de tournage, et c'est là peut-être la différence capitale de fabrication entre les pièces péruviennes et celles de l'antiquité. Mais la sveltesse élancée du col, l'élégance des contours, surtout le style ordinairement géométrique du produit péruvien évoquent le Dipylon. L'aryballe péruvien offre pourtant quelques traits originaux et "*sui generis*" de forme et d'ornementation: par exemple la faible hauteur et la largeur du cône basilaire, l'addition de deux petits anneaux symétriques, fixés sur le rebord supérieur du vase; celle, à la naissance de l'épaule, d'un et, parfois, deux petits boutons circulaires, souvent frustes, plus souvent modelés en tête d'animal; enfin la place même des anses épaisses et plates, accrochées beaucoup plus bas sur la base par l'ouvrier péruvien que par le potier de la Grèce antique.

De ces monuments si remarquables, les plus importants les plus parfaits proviennent de Quito et de Guamo, de la région du Cuzco qui a fourni à la Galerie américaine du Trocadéro les



PLATE II.—Aryballe á spondyles dit "Vase de Cumana" (Collection Sartiges).

aryballes de Yucay (legs Angrand), de San-Sébastien (mission Ch: Wiener), du Sacsahuaman, etc.; ou encore de Copocabana et Tiahuanaco (don de M. Théodore Bert). Ainsi la patrie d'origine d l'aryballe péruvien c'est l'Entre-Sierras, c'est cette longue dépression naturelle qu'utilisait la route royale des Incas, pour réunir depuis la Colombie jusqu'à l'Argentine actuelles, le nord et le sud de l'Empire du Pérou. Mais des échantillons du même genre furent aussi trouvés sur la côte; tel l'aryballe en terre noire lustrée, envoyé de Moche à notre Musée par M. le Consul Drouillon, et bien curieux par son encolure dont surgit, en demi relief, un masque humain aux yeux entrouverts et au nez mince; tels encore les aryballes donnés par Quesnel et Wiener (fouilles d'Ancon) ou ceux entrés au Trocadéro avec la collection Lemoine, formée également sur le littoral. Ainsi par les vallées latérales de l'Entre-Sierras s'échangèrent les procédés industriels et les idées artistiques des deux pays comme devaient s'échanger aussi les produits du commerce.¹

La région du Titicaca et la "hacienda" de Cumana situées sur cette précieuse voie d'échange, ont fourni au comte de Sartiges trois céramiques aryballoïdes. Les deux premières (36,350 et 36,351), d'une bonne exécution et d'une patine brillante, avec un joli décor géométrique, sont d'assez petite taille 17 centimètres et demi et 24 centimètres de hauteur. Mais la troisième à laquelle on donne plus spécialement le nom d'"aryballe de Cumana," est l'une des plus considérables que possède la Musée. En effet, sans le col, malheureusement disparu, elle mesure encore 62 centimètres de hauteur, pour 64 de largeur d'une anse à l'autre. La forme du fond conique, la courbure de la panse, l'étroitesse de l'épaule, la position des anses latérales répondent à la description donnée plus haut, comme aussi les deux têtes de puma (l'une a, du reste, été rapportée) qui grimacent en relief sur la face la plus ornée, à la jonction du col et de la panse. Mais le lointain auteur de ce véritable chef-d'oeuvre a fait appel à toutes les ressources de son talent pour le décor qui combine l'emploi de la couleur et du modelage, l'ornementation géométrique et les motifs empruntés à la nature.

¹ Cf. "*Galerie américaine du Musée d'Ethnographie du Trocadéro* par le Dr. E. T. Hamy (Paris, Leroux, 1897, in fol.), notices 106, 111, 112, 113; planches XXXVII—XXXVIII.

La base mutilée du col s'entoure d'abord d'une rainure creuse, au-dessous de laquelle court un ourlet dentelé ou mieux une série de chevrons, décomposés en petites surfaces quadrangulaires bleues, bordées de blanc. A son tour, celle-ci domine une large bande, coupée de galons plus étroits et plus clairs, faite de rectangles et dans laquelle s'inscrivent de petits triangles, tachetés de brun sur fond blanc, ou de petits cercles concentriques blancs sur fond brun. A ce motif d'un aspect austère, quoique riche, s'oppose la décoration plus gaie et plus pittoresque de la base engobée d'orange où se profile une troupe d'échassiers, d'un dessin souple et libre au trait bleuâtre.

Sur la face antérieure à engobe brune, le céramiste a rappelé transversalement le dispositif rectangulaire dont il avait bordé la base du col. En longueur, il a dessiné, au moyen d'un triple filet jaune d'or, de grands cartouches losangés d'un bleu sombre, à l'intérieur desquels sont réservés, en bas et en haut, de petits triangles oranges, ponctués d'une moulure bleue. Chaque cartouche d'autre part, enferme une valve d'un épais relief et peinte en rouge brun. L'emprunt de ces 29 coquilles, symétriquement distribuées sur cinq rangs, donne à l'aryballe de Cumana une allure très étrange. Si l'on ne savait qu'il s'agit d'une céramique précolombienne, on se croirait en présence d'un de ces décors à intentions héraldiques dans lesquels les ornemanistes de la Renaissance accompagnaient d'attributs de fantaisie la pièce principale d'un blason.

Sa valeur d'art mise de côté, le vase Sartiges ajoute un nouvel argument aux idées précédemment exprimées sur les relations entre les Péruviens des plateaux et ceux du littoral. La facture des coquilles est assez détaillée pour permettre d'en déterminer l'espèce. C'est sans contredit, le "*spondylus pictorum*," c'est-à-dire un bivalve marin qui, d'après les études du Dr. A. T. de Rochebrune,¹ ne se rencontre guère que très loin au nord de la côte péruvienne, autour de l'île Plata (1° 18' 45" latitude sud), sur le littoral de la République de l'Équateur;—à plus de 1500 kilomètres, par conséquent, à vol d'oiseau de lac Titicaca et de la "hacienda" de Cumana. Que les "Chimu" de la région maritime aient façonné l'écaille du spondyle en boîtes à fard ou à couleur et en vases, comme l'indiquent les découvertes d'Ancon, qu'ils

¹ *De l'emploi des Mollusques chez les Peuples anciens et modernes. Revue d'Ethnographie*, Paris, L. I. (1882), p. 465; L. II. (1883), p. 311.

en aient formé des colliers, qu'ils l'aient figurée avec complaisance sur la panse de certaines terres noires (cf. celles de la collection Lemoine), ce fait implique déjà de leur part de longs voyages, une réelle connaissance de la navigation et une grande hardiesse de plongeurs (car le spondyle vit accroché aux roches madréporiques par 30 mètres de profondeur). Mais la présence de ces coquillages, si péniblement arrachés à la mer et leur reproduction d'après nature, dans un canton reculé du Pérou intérieur, voilà, peut-être une constatation plus intéressante encore.

Des petits ports du pays des Chimu, de longues caravanes chargées de marchandises franchissaient péniblement les "*sierras*" occidentales, plaçaient leurs denrées dans les villes du bassin intérieur, dont les marchands à leur tour montaient négocier avec ceux des Grands-Plateaux. A la faveur de ce trafic, circulaient les idées et les nouvelles; les peuples s'empruntaient leurs mœurs, leurs méthodes de travail, leurs croyances, leurs institutions; ils se pénétraient et se modifiaient; la civilisation se développait,—en se compliquant, comme les sociétés. Voilà ce que me semble indiquer d'une façon précise l'examen de la collection Sartiges, modeste par le nombre des monuments (21 numéros) qui la composent, supérieure à d'autres, plus copieuses et plus célèbres, par sa valeur artistique et surtout documentaire.

On the Lansing Man.

BY

S. W. WILLISTON.

In the latter part of March of the present year a brief newspaper note announced the discovery of a human skull and other bones in a deep excavation made by Mr. Martin Concannon, for the purpose of storing vegetables and dairy products, in the vicinity of Lansing, Kansas. The excavation had been begun more than a year previously, but was not completed until in February, 1902, at which time the skeleton was discovered by the two sons, Messrs. Michael T. and Joseph H. Concannon, near its extremity, or about sixty-nine feet from the entrance. Occasional bones, probably of other animals, had been discovered during the progress of the work, and not a great deal of interest was excited by the exhumation of the human bones. They were, however, for the most part, laid aside, though many fragments of small bones had been cast out with the excavated material. It was not until the latter part of March following that Mr. Michael Concannon showed a part of the mandible to a newspaper reporter, who published the first brief notice of the discovery. This notice attracted the attention of Mr. M. C. Long, of Kansas City, who immediately visited the site of the discovery in company with Mr. Butts, a civil engineer, of Kansas City, who secured such of the bones as had been preserved. Immediately thereafter there was widely published a newspaper account of the discovery in some detail, ascribing the bones to the glacial age.

I had planned to visit the locality when the first notice was published, but, learning from Mr. Concannon that the bones had been taken to Kansas City I did not make an examination of the place until the nineteenth of July, in Mr. Long's company and by his invitation. The results of my observations and my conclusions were published in *Science* for August 1st. On August 9th a further and more careful study of the site and adjacent

region was made by Professor N. H. Winchell, Mr. Warren Upham, Professor E. Haworth, Mr. Long and myself, an account of which was published by Mr. Upham in *Science* for August 21st and in the *American Geologist* for September, together with additional notes by Professor Winchell. On the 19th of September a still further examination was made by Professor T. C. Chamberlin, Professor R. D. Salisbury, Professor W. H. Holmes, Dr. G. A. Dorsey, Professor E. Haworth and Mr. Long. The conclusions reached by these observers do not agree wholly with those of the previous observers, though, I believe, there is no contention as to the authenticity of the discovery or of the fluvial character of the deposits in which the bones were found.

The bones of the skeleton, when examined, had attached to them considerable masses of the characteristic matrix, in some places of almost stony hardness. Suffice it to say that the evidence of the genuineness of the bones is apparently beyond dispute. All the scientific men who have investigated the subject conclude, I believe, that the bones were actually found by the Concannon where and under the circumstances they describe. Fortunately, hence, whatever conclusions are reached regarding the bones by competent students, there will be no question as to the authenticity of the discovery.

The skeleton was found irregularly disposed, according to the testimony of the discoverers. This statement is, in part at least, borne out by the evidence presented by the bones themselves. The right acetabulum has an indurated matrix within it showing the impression of the head of the femur. Some fragments of the bone still attached to this matrix show conclusively that the femur when found was almost directly reversed in position, lying parallel with the trunk. The left femur had been removed from its socket, but fragments of it attached to the horizontal ramus of the pubis show that it must have been lying more or less obliquely as regards the pelvis. Further details regarding the skeleton I leave for the abler pen of Dr. Hrdlicka. Of immediate interest, however, is the fact that a single left maxilla, belonging to a second skeleton, was discovered by the young men ten and one-half feet distance from the other, lying almost upon the limestone floor of the tunnel at its extreme edge. This maxilla is that

of a child, as is shown by its smaller size, the presence of two deciduous molars, and a non-erupted canine tooth. In former notices of the discovery by both Mr. Upham and myself this maxilla was confounded with a half of the mandible of the other skeleton, owing to the imperfect description of the bones by the young men.

The bones, sixty-nine or seventy feet from the entrance of the tunnel, were at a depth of nineteen or twenty feet from the present surface. It is needless to say that the roof of the tunnel shows no evidence whatever of previous disturbance. The walls and gently arched roof of the tunnel have no support other than that afforded by the coherency of the material, and any previous excavation would certainly have left conspicuous and ineffaceable evidences of disturbance. This I mention because various newspaper writers, with more zeal than wisdom, have explained the occurrence of the bones as those of convicts from the state penitentiary, buried at this place. All such stories are absurd in the extreme.

The limestone floor of the tunnel is covered by from two to four feet of ancient débris of limestone fragments and shales, more or less rounded and of moderate size, which had evidently rolled or slid down from the adjacent hillside. Lying in the upper part, or more probably upon this débris, and enveloped in the silicious loess was found the skeleton, perhaps two feet above the limestone floor. Neither among this coarse débris, nor elsewhere in the walls of the excavation, could be found any foreign pebbles or other material. Above the débris and partly intermingled with it, the walls are composed of a silicious, calcareous, grayish yellowish loess, of river origin. Interspersed through it are occasional pebbles of water-worn limestone, and from the roof were obtained quantities of rounded flinty and calcareous pebbles, a quarter to a half inch in diameter, and clearly water-worn. Gasteropods of four or five species were obtained from the walls of the excavation, and from the edge of the roof, nearly seven feet from the floor, Mr. Long and I dug a complete cast of a *Unio*, showing clearly the markings of both valves.

The surface of the ground immediately above the site of the bones slopes upward toward the east; that is, toward the river valley, for less than one hundred feet to the summit of a small

terrace, fifteen feet higher up, overlooking the river valley, and upon which Mr. Concannon's house is situated. It is certain—I use the word with scarcely any hesitation—that originally at least thirty-five feet of river loess had covered the skeleton. Since 1844 the highest water of the Missouri river was in 1881. At that time the water reached, according to Mr. Concannon who has lived at the place for thirty-five years, to within twelve or thirteen feet of the horizon of the bones. The high-water mark then was twenty-five feet above the low-water mark, making altogether seventy-two or seventy-three feet as the elevation of the loess terrace above the river, and fifty-seven or fifty-eight feet as that of the present surface over the bones.

I am aware that some of the geologists, who have recently examined the tunnel, while admitting that the material in which the bones were found is of river deposition, believe that most of the material above them is of wind construction. I regret to say that I must differ decidedly from this opinion. Water-worn pebbles in quantities several inches in thickness and thirty or more feet in extent, according to Mr. Butts, and complete shells of clams are not what we would expect to find in aeolian deposits!

Perhaps a foot above the horizon of the bones there is a very distinct stratum of darker, more argillaceous material, from half an inch to three inches in thickness, traceable nearly the whole length of the tunnel with an inclination toward the mouth of the excavation of about seven inches in the seventy feet. In the upper part of the tunnel the homogeneous material shows only slight stratification marks—still they are to be seen and are horizontal. I have collected many fossils from real aeolian deposits of the plains, but never under such conditions as are found here. Upon the surface of the hillside above the excavation are at present to be found quartzite boulders and pebbles. The limestone hills sloping up from the terrace above the excavation to a height of a hundred and fifty feet have abundant evidence of glacial pebbles and boulders. Is it not reasonable to suppose that in past times the *débris* and fragments sliding and falling down this hillside would have left evidence of intercalated material in the mud deposits? There are no such evidences in the walls of the tunnel.

As to the age of the deposits in which the bones were found I can offer no decided opinion except that they are of Pleistocene

time, contemporary with the recently extinct *Equus* fauna. Professors Winchell and Upham believe them to be of the Iowan or earlier stage of the glacial period. They may be correct, but I am not sufficiently familiar with glaciological phenomena to vouchsafe an opinion. I am only confident that the skeleton dates from Pleistocene times—and is old.

The Jesup North Pacific Expedition.

BY

FRANZ BOAS.

One of the great problems of ethnological science is the relation of the American race to the races of the other continents. Ever since the discovery of America, discussion has been rife as to the relationship between the Indians and one or other of the peoples of the Old World. The culture of the more advanced tribes of America has been thought to contain elements akin to the culture of China, of India, or of Egypt; and many of the peculiar customs of the more primitive tribes were believed to be survivals of customs that are found here and there among the peoples of the Old World.

The problem of the earliest peopling of America is an important one, and may be approached from two distinct points of view. We may investigate by palaeontological methods the earliest appearance of man on our Continent, and determine his anatomical relationship to other races; or we may base our investigations on the present distribution of aboriginal tribes and try to reconstruct their history by a consideration of their anatomical traits, their languages and cultures.

The method of detailed comparison of contiguous tribes will reveal the effects of intermixture, linguistic borrowing, and exchange of cultural forms. By following out patiently and in detail the lines of interchange of culture, it is possible to trace the historical development of the tribes inhabiting a definite region.

A number of isolated facts have suggested that there are certain features common to the cultures of America and of Siberia. It seems promising, therefore, to take up the question of the early peopling of America from the point of view of a comparison between the culture and types of the tribes of eastern Asia and those of the western coast of America. A detailed investigation of the tribes of eastern Siberia and of western America will give us the means of determining whether there has been an early rela-

tionship between the peoples inhabiting this area, and it will also give us the means of answering the wider questions of the relationship between the American race and the Asiatic race, and the relationship between American culture and Asiatic culture.

The Jesup North Pacific Expedition of the American Museum of Natural History, of New York, was organized for the purpose of thoroughly investigating and, if possible, solving these problems. The great importance of these questions for an understanding of the early history of the American Continent induced Mr. Morris K. Jesup, President of the American Museum of Natural History, to donate to the Museum the means for a thorough investigation of this whole area. The expedition was organized early in 1897, and the results of its field-work have been accumulated in the collections and in the archives of the Museum, and are being published as rapidly as possible.

It was necessary to limit the field of investigation according to the particular questions which had to be solved. In America the peculiar culture of the northwest coast extends over an area from northern Alaska to Columbia River, where it comes into contact with the Californian culture. In Asia the southern limit of investigation had to be drawn in southern Siberia, where the area of the civilized peoples of Asia begins.

The fundamental questions which the expedition had to solve may be formulated as follows:

1. The period of occupancy of various parts of the coast, and changes in the physical characteristics and culture of the inhabitants.
2. The geographical distribution of the types of man along the coasts and their relationship to those of neighboring areas.
3. The investigation of the languages and cultures of the coast tribes with particular reference to the question of the dissemination of culture.

Work upon all these lines has been carried on by the expedition. The plan of work was laid out by the writer. The work in America was carried on by American ethnologists, while for the work in Siberia, through the assistance of the Imperial Academy of Sciences in St. Petersburg, the services of Mr. W. Jochelson and Mr. W. Bogoras were secured. The ethnological work in southeastern Siberia was entrusted to Dr. Berthold Laufer.

The following tabular statement indicates the work undertaken by the expedition :

1897.	
Franz Boas.....	Thompson Indians, Chilcotin, Tsimshian, Bella Coola, Rivers Inlet, British Columbia.
Livingston Farrand.....	Thompson Indians, Chilcotin, Bella Bella.
Phillip Jacobsen.....	Nutka.
C. F. Newcombe.....	Queen Charlotte Islands.
Harlan I. Smith.....	Archaeology of Thompson River and Delta of Fraser River.
James Teit.....	Thompson Indians.
1898.	
Roland B. Dixon.....	West Coast of Washington ; and Lillooet, B. C.
Livingston Farrand.....	West Coast of Washington.
Gerard Fowke	Southern Vancouver Island and Amur River.
George Hunt.....	Vancouver Island.
Berthold Laufer	Amur River.
Harlan I. Smith.....	Fraser River.
James Teit.....	Thompson River.
1899.	
George Hunt.....	Vancouver Island.
Berthold Laufer.....	Amur River.
Harlan I. Smith.....	Coast of the State of Washington.
James Teit	Lillooet, B. C.
1900.	
Franz Boas.....	Thompson River and Vancouver Island.
Waldemar Bogoras.....	Koryak, Eskimo, and Chukchee.
Livingston Farrand.....	West Coast of Washington.
George Hunt.....	Vancouver Island.
Waldemar Jochelson.....	Koryak and Lamut.
Berthold Laufer.....	Amur River.
James Teit.....	Shuswap.
1901.	
Waldemar Bogoras.....	Koryak, Eskimo, and Chukchee.
George Hunt.....	Vancouver Island.
Waldemar Jochelson	Koryak, Lamut, and Yukagheer.
C. F. Newcombe.....	Queen Charlotte Islands.
John R. Swanton.....	Queen Charlotte Islands.
James Teit.....	Thompson River and Shuswap.
1902.	
Waldemar Jochelson	Yukagheer and Yakut.

The field-work of the expedition has, on the whole, been very successful, and a large portion of the results of the field investigations have been worked out and will be published at an early date.

The following plan of publication will give a general idea of the results achieved by the expedition:¹

- Vol. I. *I. Facial Paintings of the Indians of Northern British Columbia. Franz Boas.
 *II. The Mythology of the Bella Coola Indians. Frank Boas.
 †III. The Archaeology of Lytton, British Columbia. Harlan I. Smith.
 *IV. The Thompson Indians of British Columbia. James Teit.
 *V. Basketry Designs of the Salish Indians. Livingston Farrand.
 *VI. Archaeology of the Thompson River Region. Harlan I. Smith.
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- Vol. X. Haida Texts. John R. Swanton.
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It is difficult to summarize, in the brief space of time at my disposal, the results of the expedition. These are, first of all, detailed information on the various tribes investigated, and upon

¹ Investigations published are marked with an (*) asterisk. Manuscripts completed are marked with a † dagger.

this subject I cannot enter here. The diversity of types, languages, customs and beliefs is so great that even a brief sketch of the fundamental features would occupy too much space and time.

For these reasons I shall confine myself to a discussion of the principal results which have been obtained by a comparative study of the material collected by the members of the expedition in so far as it bears upon the relation and probable migrations of the various tribes, and in so far as they can be determined at the present time.

While it is impossible to trace linguistic relationship between the numerous stocks inhabiting the area in question, it has become clear that morphologically the languages of northeastern Asia are not related to the Ural-Altaic group of languages. The Chukchee, Koryak and Kamchadal, which are closely related to each other, are polysynthetic, like many of the American languages. They incorporate the noun in the verb, and resemble in all their fundamental traits typical American languages. To a less extent the same may be said of the Yukaghir. In a broad classification of languages, the languages of northeastern Siberia should be classed with the languages of America.

It is hardly possible at the present time to express a definite opinion on the distribution of types on the west coast of America and in Siberia. Owing to the great differentiation of the American race on the Pacific coast, and to the large intermixture of Tungus and Turkish blood in Arctic Siberia, the conditions are so complex that it is difficult to discover relationships without a very detailed study of the anatomical material. This investigation has not been made yet, although a great mass of anthropometrical material and many sketches have been collected by the members of the expedition.

The early history of the coast region has been investigated, both by archæological and ethnological methods. Our archæological work has been carried on principally in British Columbia and on the coast of Washington. Here we have obtained interesting results, which throw a good deal of light upon the migrations of the early inhabitants of this district. Mr. Harlan I. Smith, who had charge of this work, found in the interior of British Columbia no archæological material that differed in any way from the culture of the Indians who inhabit this region up to the present day.

Their culture is simple; it is slightly influenced by the culture of the Plains Indians, but also shows an appreciable effect of the culture of the coast.

The archaeological conditions in the coast region are quite different. Mr. Smith, who investigated the deep shell-mounds of this area, found remains which indicate a mode of life quite similar to that of the present fishing Indians of the coast. The style of art, so far as the scant remains allow us to judge, is also not unlike the art which is found at the present time, although recently an exuberance of form has developed, probably owing to the introduction of iron tools. On the other hand, Mr. Smith discovered that in early times the art of stone-flaking was practised extensively in southern British Columbia, while in later times and in other regions of the coast this art seems to have been almost entirely absent. Furthermore, he found a remarkable change in type between the prehistoric inhabitants of this area and the present race, the former having long and narrow faces and elongated heads, while at present very wide and heavy faces and short round heads prevail. All this goes to show that there must have been a considerable change of population in this region, which in all probability was due to an invasion of tribes from the interior, by which the population of the coast was considerably modified. It is very interesting to know that this conclusion, which is based on archaeological evidence, is borne out by linguistic and ethnological studies. The region where, according to the investigations of Mr. Smith, a change of type of the population has taken place is the same as that in which we find the Salish language, crossing the coast range and spreading along the Gulf of Georgia and of Puget Sound, and also the same as that in which abnormal types of implements are found. It, therefore, seems reasonable to conclude that the Salish were new arrivals on the coast and displaced an older littoral people. Inquiries made by Mr. Boas among the most northern offshoots of the Salish, the Bella Coola, show that this tribe must have branched off from their congeners on the Gulf of Georgia at a, comparatively speaking, recent period.

Extended migrations must have taken place also in northern British Columbia and in the adjoining parts of Alaska. Here we find the Haida on Queen Charlotte Islands, the Tlingit in southern Alaska, and the Tsimshian on the coast of northern British

Columbia. These three tribes have a strictly maternal organization, the Haida and the Tlingit being divided into two clans, while the Tsimshian are divided into four clans. The investigations of Dr. Swanton have shown that the Haida have been deeply influenced by the culture of the Tsimshian and also by that of the Tlingit. Linguistically, Haida and Tlingit are quite distinct from Tsimshian. While the first two have a type of language somewhat similar, in morphological characteristics, to the Athapaskan, the Tsimshian is quite different. The first two have no reduplication, while Tsimshian abounds in reduplication. The first two have an elaborate verbal system, while the Tsimshian has a very simple method of verb composition. The artistic productions, the mode of living, and the manufactures of the three tribes in question are very much alike, and it would seem that they must have developed on the coast. Nevertheless, a detailed comparison of the customs and folk-lore of the Tsimshian shows very clearly that their affiliations with the coast tribes have been recent. The distribution of customs and folk-lore along the coast are such that there is everywhere great similarity. The Tsimshian, however, possess a great many peculiar features which do not seem to fit into the general circle of coast ideas. This is perhaps partly due to the fact that the Skeena River, on which the Tsimshian live, is one of the important lines of communication between the interior and the coast; but at the same time the whole number of cultural traits of the interior that has been introduced along this line to the coast is so great that it seems justifiable to assume that the Tsimshian are new arrivals in this part of the country, that they have gradually assimilated the customs of the coast tribes, that they have developed them somewhat independently, and that in their turn they have influenced the culture of the surrounding tribes.

The results of the expedition in regard to probable migrations in the Arctic are even more remarkable, and have an important bearing upon the question of the relationship between the tribes of Siberia and those of America. The culture of the Chukchee, who inhabit the extreme eastern part of North America, is quite similar to that of the Eskimo, with the important exception that the Chukchee are reindeer-breeders, while the Eskimo are purely hunters. The similarity between the life of the Chukchee and that of the neighboring Koryak is great, although the character-

istic Eskimo features tend to disappear. An analysis of the religious ideas and of the folk-lore of these tribes gives us the unexpected result that among the Chukchee we have not only a great number of Eskimo stories, but also a considerable number of Raven myths, which show a striking analogy to Raven traditions of the Indians of the North Pacific coast. Among the Koryak and Kamchadal the Eskimo elements become much fewer in number, while the relative proportion of Raven myths which show similarity to Raven tales of America is much larger. This feature is so striking that Mr. Bogoras and Mr. Jochelson have independently reached the conclusion that a close affiliation exists between eastern Siberian folk-lore and that of southern Alaska and British Columbia. Mr. Jochelson finds that the Koryak have many incidents in their tales in common with the Old World and with the North American Indians, and quite a number which are common to the Koryak, the Eskimo and the Indians, but none that belong to the Koryak and to the Eskimo alone. This is clear evidence that contact between Koryak and Eskimo is more recent than that between Koryak and Indian.

This clew once given, we investigated the cultural similarities in this whole area, and found ample evidence that there must have been, at an early period, an intimate relationship between the Indian tribes of the Pacific coast and the peoples of eastern Siberia. The peculiar fact that this relationship comes out much more clearly some distance to the west of Bering Strait, particularly among the Koryak, proves that the similar traits of culture cannot have been transmitted indirectly through the Eskimo.

Unfortunately our knowledge of the Alaskan Eskimo is not thorough enough to permit of a definite statement in regard to their culture. Nelson's descriptions prove that they have been slightly influenced by their Indian neighbors. On the other hand, the sameness of Alaskan Eskimo culture and of Eastern Eskimo culture is so great that the former can be interpreted only as a specialization of the latter. So far as the available material allows us to judge, it would seem that the similarities between the Eskimo and the North Pacific Coast Indians are unimportant as compared to the similarities between the Koryak and Chukchee and these Indians. We must infer from these facts that the Eskimo are new arrivals on the Pacific side of America,

that their original home was somewhere near, or east of the Mackenzie River, and that they interrupted, at an early period, the communication between the Siberian and Indian tribes, which left its tribe in many cultural traits common to the peoples on both sides of the Bering Sea.

It seems, therefore, that the expedition has established, on the other hand, a break between the East Siberian tribes and the Eskimo; and, on the other hand, a relationship between the East Siberian tribes and the coast Indians. The investigations of Messrs. Jochelson and Bogoras have also resulted in clearing up the relationship of the Northeast Siberian tribes to the adjoining Asiatics, particularly to the Tungus and Yakut. There is a fundamental break between the types of culture of these Asiatic tribes and of the East Siberian tribes; and comparisons of type, language and culture make it at once evident that the Northeast Siberian people are much more closely akin to the Americans than to other Asiatics.

The data collected by the expedition thus establish the fact that the Chukchee, Koryak, Kamchadal and Yukaghir must be classed with the American race rather than with the Asiatic race. It seems likely that some of the other isolated tribes of Siberia may have to be classed with this same group of people, and it would be very desirable to extend our researches over the region between the Yenisei and Lena. At the present time we are unable to state definitely what the relations of the Gilyak and Ainu to the other isolated Siberian tribes may have been. Their culture is much affected by Chinese and Japanese civilization and by that of the neighboring Tungus tribes. It remains for future researches to show whether these tribes may definitely be classed with the Northeast Siberian tribes.

It is, of course, not possible to give at the present time the final results of all the researches carried on by the expedition, and many of the points of view, which I have briefly indicated remain to be elaborated, and may be more or less modified by a detailed comparative study of the material collected. I believe, however, that we are safe in stating that a close relationship between the isolated tribes of Siberia and the tribes of America has been established. Future researches may somewhat modify our views as to the lines of migrations here discussed, particularly, it seems possible that a more thorough investigation of the Alaskan Eskimo

may correct our present conclusions as to the rôle that this tribe played in communicating Asiatic culture to America, and American culture to Asia, but it may be expected that the question which the expedition tried to solve will be modified by these researches only in detail. The main fact of the existence of a close relation between the aborigines of Siberia and of America seems to be well established.

The Mythology of the Diegueños, Mission Indians of San Diego County, California, as proving their Status to be Higher than is Generally Believed.

BY

CONSTANCE GODDARD DUBOIS.

I would respectfully suggest that investigation may yet disprove the commonly accepted notion of the radical inferiority of the Mission Indians. If they had been the lowest type of humanity on the face of the earth, as has been most unwarrantably stated, they could not in one generation have become skilled laborers in the Mission communities, and Christian teachers of their own people. But it is enough to suggest that a large body of valuable myths and legends, logically connected, poetic, even dramatic in a way, has been theirs, and has mostly perished unheeded by their detractors.

Old Antonio is the survivor of four brother bards, each of whom had his own particular story, handed down from the preceding generation, and preserved word for word with its accompanying songs.

Antonio's story was recited to me in the vernacular, the Diegueño; and translated by a well-educated Indian girl; and as I wrote it down word for word I can vouch for its correctness.

Of the hundred or more songs which accompanied it, interspersed through the narrative, I was able to catch with certainty only a few words of the original; and the phonograph alone could give an idea of the wild, weird melody of them. They were of inimitable cadences, beginning abruptly and ending with surprising suddenness, accompanied with many hum-hymns and long drawn-out repetitions of a vowel at the end of a word.

A curious thing about this ritual is that though it shows quite

clearly here and there traces of myths, elsewhere interpreted as light myths, it is in itself a rarer thing, a meteor myth.

The Diegueños, living in a land of radiant atmospheres, were stargazers, perhaps, beyond other Indians. The Milky Way, Ha-tat-kurr (spine or backbone), figures in one of their religious *ñestas*. The North Star, Quin-a-sáp Katulśh; the Pleiades, Ka-teha, and Orion Amú are alluded to in their sacred songs.

It would take me too long to describe my research for the Chaup, the embodied principle of the great meteors of the crystalline California sky. By a strange coincidence the wonderful meteor of August 17, 1901, occurred on one of my journeys in the back-country of San Diego county, during which I had been anxiously inquiring for the true legend of the Chaup; and when this splendid meteor blazed out above our heads our Indian guide and interpreter exclaimed, "That is Chaup."

Antonio knew the Chaup's history beginning with that of his father and grandmother. I will read such extracts from it, abbreviated from the original nine-hour recital, as will serve to show its dramatic and mythic character, and its superiority in many respects to the folk-lore of so-called higher tribes.

The story begins with the miraculous or semi-miraculous birth of twin baby boys whose mother, even, was ignorant of their paternity. The mother and her sister lived alone and all their actions were of the experimental sort, as might be those of the first inventors of human customs and industries.

"The babies need a cradle," said the elder sister, "but they have no father to bring them what they need. They will never know a father's care."

But the two sisters went up on the mountain and found long, slim shoots of bushes which they bent and wove into little cradles. They did not know how to do the work, but they made them any way to hold the babies.

The story follows the twins as they grow up. The mother teaches them to hunt, and we are told in detail the story of the deer and that of the eagles, who died and were buried and came to life again. Esoteric meanings can, no doubt, be discovered in this part of the tale.

The love story of the brothers begins in this way:

The mother of the boys commanded them to bring her a cer-

tain tree, telling them where it grew, and when they brought it she chopped it up fine and took the pieces and put them out in the sun to dry. And the pieces of wood, as she touched them, made sweet music. Then the old woman decorated the pieces with the colored feathers of woodpeckers and the top-knots of quails and made them into flutes for her sons to play on.

The song illustrating this incident was particularly sweet in its melody, and was sung softly and with expression. As far as I was able to record it in its many repetitions it ran thus:

Wi-li-wha-cha-a-cha-a-cha
Wi-li-wha-cha-a-tal
Ha-ma-ko-lu
Ha-ma-wi-li
Ha-ma-ka-la-ka
Ha-ma-wi-li-wi
Ha-ko-so-lu
Ha-ma-wi
Ha-ma-ko-lu
Ha-ma-wi-li-wi
Ha-ma-cha.

So the brothers sat down in turn facing the North, South, West and East, and attracted by the music the girls from the four cardinal points came to them, but they liked none of the girls from the East, the daughters of Ithchin, the buzzard, who lived on the fruit that grows in the East and smelled sweet.

It was early in the morning when the girls first heard the music and it was the younger sister who told the other to listen to the wonderful sounds. But the older could hear nothing.

"I must go. I must follow the music," said the younger. So they went away one day towards where the boys lived, and from far away they looked back and saw their home and sang a song of farewell.

And they went on through brush and thorns. There was no road; brush and thorns hurt their feet but they went suffering and crying on their way.

At last they came to a great sand mountain which they tried to climb, but every time they tried they slipped back to the bottom again.

"What is the matter with you?" the younger sister asked the

older. "You say you are a witch and yet you can not contrive some way for us to climb the mountain."

So the elder sister stood and stretched up her hands and brought something from the sky like a great fur mantle and covered the mountain with it, so they climbed it easily and sat down on top to rest.

Meantime the mother of the boys knew that the girls were coming and she told her sons that when the girls came they must not allow themselves to care for them or make any motion to greet them. If they were perfectly cold and silent, the girls would go away again to their home where they belonged; so when the girls came the older son remembered his mother's command and would not move or stir to greet his wife, but the younger son loved his wife in spite of his mother's command.

In the morning the brothers rose very early and went out to saddle their horses and the girls went and sat outside.

While they sat there the older sister said to the younger, "You are now a relative of the old woman since your husband loves you, but I am not and I shall go back to my home."

"I shall be too lonely to stay without you," said the younger. "If you go I shall go with you."

So they went to the pond, bathed their faces and went home.

The younger son was sick with grief for the loss of his wife. He used to beg his brother to go with him to seek their wives and at last the older brother yielded to his wishes and told his mother that he was going on a long journey.

He took off a feather head dress that he wore and hung it in the house. "Watch this every day that I am away," he said. "While I am living the feathers will remain as they are, but when I die they will move back and forth." The younger son said farewell in the same way, and took a feather rope which he had made and stretched it across the house. "Watch this carefully," he said, "for while I live it will remain as it is, but when I die it will be cut in two."

The mother was sick with grief for the loss of her sons and refused to let them go; but they went on till they came to a great grove of trees, and here they made stuffed figures of grass, and put feathers around their head and waist and stood them up and left them there. The old woman looked out of her door and

thought she saw her sons. She ran to meet them and put her arms about them but it was only withered grass that she held in her arms. She fainted and fell to the ground. She did not know what to do.

The brothers traveled till they came to the top of a high mountain, and the older came first to the top and sat down, and they sat together and watched the people in the valley where a large crowd was playing a game of ball.

"Look at all those people," said the older brother. "How are we going to be able to get to the place in safety?" So the younger stood and held up his hands to the sky and got a lot of stars and put them all over his body. And his brother did the same. They were shining like stars; and they rose as if they had wings and flew over to where they wanted to go. The roof of the girls' house opened and they went in shining like stars.

The girls were glad to see their husbands and laughed so loud that their father heard them and said: "I wonder what is the matter with my daughters." "There is something in the house like stars," his grandson told him. "They have eyes of fire and I was afraid of them."

When the old man heard this he wanted to kill the Chaups and he dug a passage underground from his house to the girls' house, and the house began to fall with a loud noise; the brothers flew out among the people who followed them saying they were Chaups and trying to kill them; since they were witches no one could hurt them, so the old man went out alone until he caught up with the Chaups. He was a wizard too. He killed the younger brother first. The younger called out to his brother to save himself; but when the older brother looked back and saw his brother dead he sat down on the ground and the old man came and killed him too, and stood on the breast of the dead Chaups and sang that it was he who had killed them.

The wife of the dead Chaup knew that as soon as her child was born if it was a boy the old man would kill it, so when her baby was born she pretended that it was a girl.

When the boy grew older the grandfather tried many ways to kill him but could not, because the boy was a witch.

One day the boy saw the bone of his father's heel made into a painted ball, and the people played with it for a shinny ball. The

boy knew that it was his father's bone, and so he stood far away and whistled and sang and the ball rolled to his feet, and he took it up and threw it far out into the ocean. Then he was glad and sang and danced. He sang that he was the Chaup because he was the son of Chaup. His mother called him by this name, *Cuy-a-ho-marr*.

Now he thought of going to his old grandmother, the one left far away, the mother of his father, so he started one day and never came back.

On his journey he came to a big cañon where they had killed his father and uncle, and an owl flew before him hooting. He tried to shoot it but he could not hit it and it led him to the spot. Red ants, flies and all sorts of insects were thick here.

He was standing there when his father's voice spoke to him, and told him that his bones were all broken to pieces and he could not do anything, so the boy sat down and tried to fit the bones into their places. He put all together but the leg, and that he could not join so it would stand up. He was sorry, and cried and went away. He came to a wide lake, and just as he reached the other side of it he turned back and saw his mother following him; she was tired, and he took his bow and blew upon it and it spread out long, and he told her to walk on it across the lake. Just as she came near to him he took the bow away, and she fell into the water and was drowned. He had killed his mother.

He came to a hill and stood on the hill and saw his grandmother who was sitting there and looking towards him. He came to her but she could not see him. She was blind.

He sat on her lap and she put her arms around him and they both cried. "Where shall we go now?" asked his grandmother.

"Where do you want to go?" he said, "I will take you wherever you choose." Then he sat down and she climbed on his back and he flew with her far away to the North to the San Bernardino Mountains, and Chaup lives there still with his grandmother.

The Throwing-stick of a Prehistoric People of the Southwest.

BY

GEORGE H. PEPPER.

The throwing-stick of the great Southwest has been known since 1892. The first mention of this interesting implement was made in *Science* of September 3, 1893, when Prof. Otis T. Mason wrote of it in these words:

“I have just made a discovery that has given me great pleasure. In the Anthropological Building at the World’s Columbian Exposition, Chicago, is a Cliff Dwellers exhibit exposed by the State of Colorado. In looking carefully through the Colorado State alcove I discovered two examples of the Mexican atlatl, or throwing-stick. The shaft is the segment of a sapling of hazel wood. At the distal end is a shallow gutter and a hook to receive the end of the spear shaft. At the proximal end is a grip. In the more perfect specimen, about 4 inches from the extremity, is a loop on either side of the stick, one for the thumb, the other for the forefinger; the remaining three fingers would be free to manipulate the spear shaft. These loops were made by splitting a bit of rawhide, sliding it down the proper distance on the stick, forming loops less than 1 inch in diameter by bringing the projecting ends of the rawhide and seizing it fast to the shaft.

Just below these finger loops, or stirrups, were a long chalcedony knife or arrow-blade, the tooth of a lion and a concretion of hematite seized by a plentiful wrapping of yucca cord. If the readers of *Science* will recall the Bourke example from Lake Patzcuaro, with its long, barbed spear with shaft of cane, he may follow me further and believe that a bit of cane and a spear head of chalcedony attached to a tang or fore-shaft of wood lying in the same case, and pointed out to me by Mr. C. C. Willoughby, belong to the same outfit. This is the first instance of finding the ancient atlatl, figured in the codices and described by

Mrs. Nuttall. It also connects the Cliff Dwellers with the Mexican people."

In this short article we have the first and one of the best descriptions of a weapon that was used in the southwestern part of the United States, probably before the advent of the Cliff Dwellers.

The home of the throwing-stick in this part of the country is confined to a restricted area in southeastern Utah and northern Arizona—the Grand Gulch and the Cañon de Chelle region. Here, in the natural caves, dwelt a race of people who differ in many ways from the well-known Cliff Dwellers. The art of basketry was highly developed among them, and the dead were covered with large baskets, hence they have been named the Basket Makers. Of pottery they had but little, and that of the most primitive form—the half-baked basket-marked variety. Their sandals differ radically from those of the Cliff Dwellers, some of which are found in the upper levels of the same caves. Their skulls, instead of being flattened as are those of the Cliff Dwellers, present a normal occiput. Their chipped points of stone are always large, suitable either for knives or for the fore-shafts of their throwing-spears. From the evidence at hand it would seem that they had no bows nor arrows, and, so far as present knowledge goes, the throwing-stick, with perhaps a few spears and hafted axes, were their offensive and defensive weapons.

This people could not have been strong numerically, if we may judge from the remains, and certain evidences of conflict may account for their possible extermination or removal to another locality. The question of identity, however, must be left for another occasion.

The throwing-stick, so far as known, has been found in the Southwest, only in the area mentioned, and but four comparatively perfect weapons of this form from that locality. Its nearest relative is in the Jalisco region of Mexico.

A general idea of the form and size of the Southwestern type has been given in Prof. Mason's description. The same author describes a specimen in the National Museum, collected by Capt. John C. Bourke on Lake Patzcuaro, Mexico. This thrower is two feet three inches long and has two finger-holes. It is made entirely of wood, the finger-holes being cut through a broadened part, just above the handle, whereas those of the Basket Makers have loops of rawhide attached. The Mexican Atlatl that bears the greatest

resemblance to the Southwestern form is the one that was probably sent to Spain at the time of the conquest and now preserved in the British Museum. Mrs. Zelia Nuttall, in speaking of this specimen,¹ says: "It still retains one of the two finger-rings made of shell, that were originally attached to its handle." Two others are described, one being in Berlin and the other in Rome. "The three specimens consist alike of a long, straight piece of a very hard and fine-grained wood (zapote?). Each is provided with a central spear-shaft groove ending with a hook or spur, and each must have originally had lateral finger-rings attached like those of the London specimen. The specimen in the Museo Kircheriana in Rome is ornamented with carvings in low relief, human figures and symbols, one serpent and five carved serpent heads. It is an interesting fact that the serpent symbol is carved on each of the three specimens."

The serpent seems to play an important rôle in the symbolism of the throwing-sticks from the Southwest, which will be treated in detail. Let us now follow the trail of the atlatl or throwing-stick and consider its distinctive features in Florida and in the North.

The Floridian forms, found by Mr. Frank H. Cushing in his explorations of ancient Key Dweller remains on the Gulf Coast of Florida, are more delicate in structure than those preserved in foreign museums and represented in the ancient codices and carvings of Mexico and Central America. There is one with two finger-holes that is similar to the Patzcuaro form from Mexico, while the second, with one hole, is of a more ornate character, having a rabbit carved in relief at one end, the tail of which forms the spur against which the arrow rests when about to be thrown. These throwing-sticks appear to be more of a ceremonial form than an actual weapon.

A fourth region where throwing-sticks have been found is that of the North and Northwest. Were we to include South America we would have still other regions to consider. The Northern type is highly utilitarian, and there, among the Eskimos and some of the Northwest coast tribes it becomes so broad that it is really a throwing-board and it is thus termed by some writers. These implements of the chase are made for use and most of them are

¹ "The Atlatl or Spear-Thrower," *Papers of the Peabody Museum*, Cambridge, Mass., Vol. I, p. 16.

devoid of ornament, although there are specimens from the Tlingits, beautifully carved with totemic devices, the designs covering the greater part of the surface.

So much for distribution; let us now consider the uses of this implement and weapon in the light of historic evidence that we may the better understand the uses of the various parts of the prehistoric forms.

Dr. E. B. Tylor (*Primitive Culture*, 1873) says "The Aztec civilization is the highest known to have used the spear-thrower, in reality a weapon of savagery." As the Aztecs used the throwing-stick in hunting birds and fish, which was probably done from a canoe, they necessarily labored under the same difficulties as do the Eskimos of the present day. Concerning these, Prof. Mason says:¹ "The Eskimo spend much time in their skin kyacks from which it would be difficult to launch an arrow from a bow, or a harpoon from the unsteady, cold and greasy hand; therefore, this device of a throwing-stick is the substitute for the bow or the sling, to be used in the kyack." This, however, would not account for the use of such a weapon in a country such as the Southwest, where there are few lakes large enough to warrant the use of the canoe, but the same author gives us further insight in regard to its capabilities.

"The throwing-stick is also said by some Arctic voyagers to be useful in giving directness of aim. Perhaps no other savage device comes so near in this respect to the gun barrel or the groove of a bow gun. Its greatest advantages, however, are the firm grip which it gives in handling a harpoon or dart, and the longer time which it permits the hunter to apply the force of his arm to the propulsion of his weapon."

Prof. Frederick Starr, in speaking of the Indians of southern Mexico,² tells of the use of this weapon in hunting ducks where the bow and arrow is well known.

From the historians who participated in the conquest of Mexico we learn of the force with which the native warriors could hurl their spears by means of the atlatl, some even affirming that they could cleave a door. Thus we may realize something of the efficiency of this curious weapon, which was brought to the notice

¹ Smithsonian Report, 1884, Pt. 2.

² Davenport Academy, Vol. IX, p. 11, 1900.

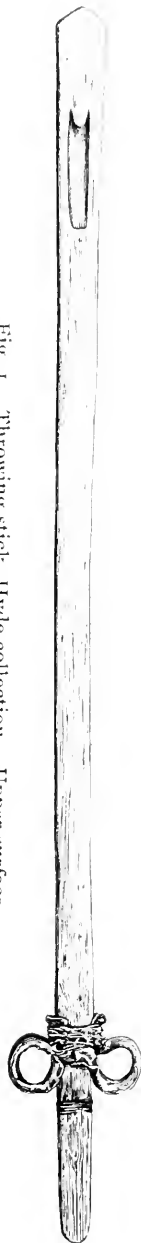


Fig. 1. Throwing-stick, Hyde collection. Upper surface.



Fig. 2. Throwing-stick, Hyde collection. Under surface.

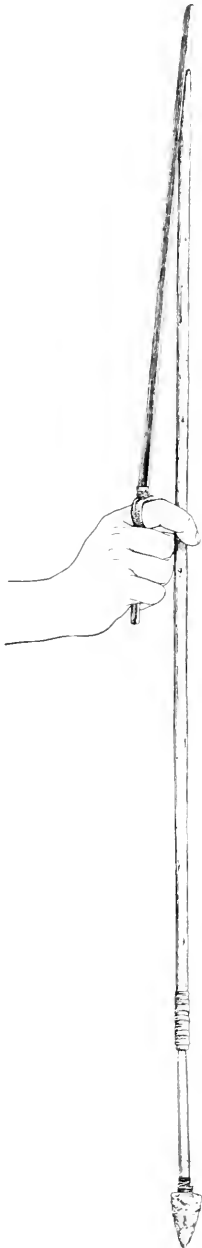


Fig. 3. Manner of holding Throwing-stick and shaft.

of the American people by Mr. Ad. F. Bandelir, in 1887,¹ when he mentioned the fact that Prof. F. W. Putnam had identified the atlatl in all probability with the throwing-stick of the Aleutian Islands.

THE SOUTHWESTERN THROWING-STICK.

Of the four most perfect throwing-sticks from the Southwest, two are probably of a ceremonial nature; we will, therefore, consider these weapons under separate heads—the utilitarian and the aesthetic. We will allow the one from the Hyde collection in the American Museum to stand as a type of the two that have been used.

This specimen (Plate I) was found with a mummy in Grand Gulch, Utah, by Messrs. McLoyd and Graham, in 1894. With other material it passed into the hands of a gentleman from New Mexico and, for a time, was exhibited in the City Hall of Durango, Colorado. It was here that the writer saw and made a drawing of it in 1898. The next year, through the purchase of the McLoyd and Graham Collection from the owner, Mr. Kuntz, it became the property of the Messrs. Hyde.

It is a perfect specimen in every way. Made of hard, straight-grained wood, it is still strong and sound in fiber. The surface is smooth and shows a slight polish. It tapers gently from the distal or spur end and is slightly concave, possibly from warping, on the under side. The stick itself is 1 foot $10\frac{7}{8}$ inches long and 1 inch wide at the spur end, the taper causing it to decrease in width to $\frac{5}{8}$ inch at the proximal or hand end. Other measurements are as follows: From distal end to tip of spur, $2\frac{7}{16}$ inches; spur groove, $2\frac{1}{4}$ inches long, $\frac{3}{8}$ inch wide (average) and $\frac{3}{16}$ inch deep. The average thickness of the stick is $\frac{1}{4}$ inch. Thongs forming finger-loops are $2\frac{1}{4}$ inches from the proximal end. Width of thong forming finger-holes, $2\frac{1}{4}$ inches from outer to outer edge. Diameter of finger-holes, $\frac{3}{4}$ inch. The thong is made of rawhide. It has been folded and a cut made in the center. Through this the shaft of the throwing-stick has been forced until the rawhide rests in a shallow groove made for its reception. Here it is seized with sinew. The ends are pressed forward against the edges of the stick and there fastened with sinew, thus forming the loops. The ends, just mentioned, are not

¹ "Art of War and Mode of Warfare of the Ancient Mexicans," 10th Ann. Rept., Peabody Museum, Cambridge, Mass.

merely secured with sinew, but are sewed with sinew cord which passes back and forth across the stick and also through both sides of the middle portion of the rawhide, thereby bringing that portion forward so that it rests against the ends. In this respect it differs from other known specimens, there being in all other cases an interval between the split or main portion of the rawhide and the ends of the loops.

There is a distal or spur-end of another throwing-stick in the Hyde Collection (Fig. 1), which was found in the Grand Gulch country of Utah by the Wetherill Brothers, in 1893. It is slightly heavier than the corresponding part of the one just described, but otherwise it is practically the same.

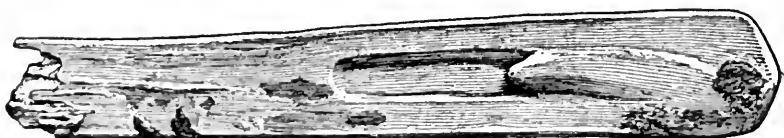


Fig. 1.

During the year 1901 the University of Pennsylvania added a throwing-stick to its collection of Southwestern material. It was secured by Mr. Stewart Culin from Mission Fathers of St. Michaels, New Mexico. It is the largest and heaviest dart-thrower from the Southwest that has been noted. It is made of hard wood and is perfectly preserved. The finger-loops are missing, but from the appearance of the weapon it would seem that they might have been in place when the stick was found. There is a very light color area where the loops have been, whereas, other parts of the stick are discolored. The stick is heavy at the distal end, but gradually decreases in thickness until, at the handle end, it is quite thin. It is $\frac{5}{8}$ inch thick at the distal end and $\frac{1}{8}$ inch at the proximal end. There is a curve at the distal end, making the under part concave. This curvature of the weapon would serve to elevate the shaft when it was in position for throwing, and was probably intentional. There is a hole in the distal part of the stick. It is drilled from the under surface and emerges at a point directly in the center of the flat end. This small opening was, no doubt, used for the suspension of a feather-cord, its object being a ceremonial one rather than that of utility. The length of the stick is $23\frac{7}{8}$ inches. Width at distal end $1\frac{1}{4}$ inches, and at the proximal end $\frac{7}{8}$ inch. Grooves that have been cut in the

edges of the stick for the reception of the loops begin at a point $3\frac{5}{8}$ inches from the handle end. They are $1\frac{1}{2}$ inches in width and are notched, for the purpose of more securely binding the loops, at the distal end. The stick is very flat. There is a raised portion which begins at the distal end and extends to the shaft-groove. The end of this raised section forms the spur against which the shaft rests when in a position for throwing. This spur projection is $1\frac{3}{4}$ inches long and $\frac{1}{4}$ inch in height. It projects $\frac{1}{4}$ inch above the general surface of the stick. The shaft-groove is 5 inches long and has a uniform width of $\frac{3}{8}$ inch. It is very shallow. At the proximal end of the shaft-groove there are two grooves $\frac{1}{4}$ inch long, which are really deep scratches. They are, however, intentional. There is a narrow groove on either side of the upper surface of the stick. They are near the outer edges and extend from the distal end to within $2\frac{1}{2}$ inches of the handle end, where they seem to have been worn away by use.

In the Hazard Collection in the Museum of the University of Pennsylvania there is perhaps the best series of throwing-stick material available. One of the specimens is a fragment of a throwing-stick; it is the hand end and shows notches for the attachment of the finger-loops. The series is especially rich in ceremonial or fetishistic forms.

CEREMONIAL THROWING-STICKS.

The most noted throwing-stick from the Southwest is in the Hazard collection; it is the first one known from that region. This specimen figures in the early part of this paper, where it is so ably described by Professor Mason. It is not a perfect specimen, as dry rot has ravaged it and it is broken, but its special claim on our attention is the wrapping of cotton yarn (not "yucca," as Prof. Mason states in his description) which conceals beneath its strands the verification of a tradition, and as he who gave us this tradition furnished the text for the label that accompanies the specimen, let us see what he says of the meaning of the exterior embellishments. Mr. Cushing's label is as follows:

"Throwing-stick of flexible walnut (?) sapling, showing wild-cat tooth fastening of finger-loops with 'Feather Cleaver' or 'Lightning Stone' (knife or arrow of chalcedony), war fetish stone, and 'Blood Clot' of limonite and wrapping of dyed cotton yarn originally decorated with bright feather work."

Terms such as used in this label had a definite meaning to the one who wrote them, as they naturally had to the tribe from whom they were learned, but as many investigators deemed most of the theories advanced by this gentleman as mere children of his brain it is little wonder that they were skeptical when Mr. Cushing made the statement that there should be turquoise beads or pieces of turquoise in the middle of the mass of twine that bound the sacred objects to the handle of the ceremonial stick. Concerning the results of the investigations that his statements brought about, let me quote from the Bulletin of the University of Pennsylvania for June, 1898.¹ Mr. Stewart Culin, in an article on "An Archaeological Application of the Röntgen Rays, says: "Mr. Cushing having expressed the opinion to the writer that a piece of turquoise, explained by him as the heart of a fetish bird, was concealed beneath the heavy wrapping of brown yarn that binds the finger-loops of the prehistoric throwing-stick from Mañas Cañon, Colorado, in the University Museum, it occurred to the writer that the verification of this conjecture might be secured with Dr. Leonard's aid. It will be seen (in the photos shown) that four stone beads, presumably of turquoise, are revealed, as Mr. Cushing has indicated. I may add that the extreme fragility of the wrapping is such as to render an examination by other means impossible without serious injury to this valuable object." I would correct what is probably a typographical error and state that the "Mañas Cañon should be Mancos Cañon, which is situated in the southwestern part of Colorado. But again this is an error that I feel it my duty to correct, as the specimen was not found in Colorado, although mentioned in the catalogue and the publications of the Museum and even copied by foreign writers. According to the best authority obtainable this specimen was found by McLoyd and Graham in the Grand Gulch region of southeastern Utah, and I feel practically safe in saying that no Basket Maker material has been found in the Cliff Dweller area of Colorado. I do not make this statement from hearsay, but after careful investigation, and merely to rectify an error that could not have been avoided, but which would play an important part in relation to the distribution of this weapon in the Southwest.

Returning to the throwing-stick under consideration I find that

¹ Bulletin No. 4, p. 183.

this specimen was the means of identifying the "Thrower" or stick upon which the other three rest when a throw is made in a stave game. Mr. Culin, in speaking of this, says:¹ "Mr. Cushing had already suggested to me that this slip, which is placed beneath the others in throwing, corresponded with the atlatl. Comparison of the banded sticks with a prehistoric throwing-stick from a Cliff Dweller in Colorado led to my conclusion that the banded sticks (of the gaming sets) actually represented the atlatl, the cross-marks perpetuating the crossed wrappings for attachment of its finger-loops. The Cliff Dweller atlatl has finger-loops of leather, which are cross-wrapped on both sides of the shaft. It is also wrapped at the finger loops with colored yarn, now a uniform brown, but which Mr. Cushing regards as having been originally of various colors. In a set of gaming-sticks from the Tewan Pueblo of Santa Clara we find the banded stick marked with a cross between fifteen transverse notches, which are painted green, red, yellow and blue, the colors attributed to the world quarters. The colored notches, I assume, represent the yarn of different colors on the original throwing-stick." Thus has one specimen helped to identify the symbolism of the sedentary people of the Southwest.

Another portion of a throwing-stick in the Hazard Collection reminds us of those already noted from ancient Mexico. Cushing's label tells us that it is the "Handle of Throwing-stick of live oak sapling, bared of wrapping, but with perfect finger-loops, and with rattlesnake skin fetish." The skin is bound upon the stick and covers the entire space between the finger-loops. This is highly interesting in view of the fact that the three Mexican specimens mentioned by Mrs. Nuttall have decorations in the form of serpents. While in camp at Pueblo Bonito, in Chaco Cañon, N. M., I was working on a model of a throwing-stick from Utah. A Navajo Indian happened to see it and he immediately said "Klish," which is the word for snake in their language. He also stepped aside in order to get away from it, as they will touch neither a snake nor anything snake-like. I endeavored to learn why he had called it a snake, but he would say no more. This may have been merely a coincidence and perhaps he knew nothing of the relation of this stick to the snake. He

¹ *Journal of Am. Folk Lore*, Vol. II, No. 43, 1898.

may have conceived the idea of the snake from the shape of the end of the stick, but it is worthy of mention and of future investigation.

On one occasion when the writer was showing a mass of ceremonial sticks, found in a room of Pueblo Bonito, N. M., to Mr. Cushing, he, Cushing, insisted that a certain curved-end form was the fetish of the atlatl which was, itself, the fetish of the snake. He searched diligently for some detail that would verify his theory and was at last rewarded by finding one of the same form that he had pointed out which had a spur in the shape of a rattlesnake's rattle, carved in bold relief near the distal end. He was naturally overjoyed and the writer was also greatly pleased from the fact that the snake element was thus represented in the culture of the ancient people who inhabited Pueblo Bonito. It was another instance of the verification of hypothetical conclusions through the light of archaeological investigation.

Why the snake was chosen as the fetish of the atlatl we do not know, but as Mrs. Nuttall says: "It is not difficult to imagine why the serpent was selected as an appropriate symbol for the swift thrower of a fatal dart." "It is still more interesting, however, to ascertain, through authentic records, that atlatl, made in the shape of a serpent and inlaid with turquoises, were in real ceremonial use at the time of the Conquest." In summing up a recital of facts that tend to prove that the lightning and the serpent were associated with the atlatl, she says: "Suffice it, therefore, to have been confirmed in the knowledge that lightning and swift destruction were symbolized by a certain carved form, and that this form was that of a ceremonial atlatl."

As the natural psychic creative element was dominant among the primitive peoples of America, the ceremonial forms were apt to be similar from the fact of their common cosmic origin, therefore the explanation of a certain symbol in one part of the country would, perforce, be of interest as a possible explanation of a distant problem even were the inter-relation of tribes and the possibility of intercourse less probable. I, therefore, feel that another passage from Mrs. Nuttall's monograph will be pertinent at this time as shedding more light upon the question of symbolism as applied to this weapon.

"It seems as though one could discern the line of thought that led the ancient Mexicans to associate lightning and (the closely

allied) serpent symbolism with their military arm for throwing fatal missiles. They may have done so at first with the belief and hope of endowing their atlatl with the qualities they recognized in both destructive forces. It is easy to understand how, by gradual transition, the forces themselves should come to be symbolized by the weapons and that these should become more and more emblematic and depart from their primitive form "

Cushing claimed that the ceremonial sticks before mentioned, from Pueblo Bonito, were the fetishes of the staves used in games of divination and were in this respect closely associated with the weapons of war which they symbolized. 'The stick being the fetishistic form of the actual weapon was used in ceremonial appeals to the War God and a smaller fetish of the ceremonial fetish was carried on the person of the warrior when he went forth to battle.

Returning to the throwing-stick itself, I would note a specimen owned by Professor Frederick Starr, of the University of Chicago. It is another of the ceremonial form, similar to the one in the Hazard Collection, and was found in the Grand Gulch region of Utah. The owner describes and illustrates this specimen in the *Internationales Archiv für Ethnographie*, Leiden.

The specimens in the Walker Museum of the University of Chicago were examined under difficulties, as the Curator was in the field when the writer visited the Museum. There are, however, several interesting objects in this collection.

There is a throwing-stick of the usual flat form, or at least a part of one, which has a proximal end deeply notched for the attachment of finger-loops, but the loops are missing. The notches are about 2 inches from the end, which gives the shortest grip that has been noted. The stick is half round and, from what could be seen, is similar to the Hyde specimen. There is quite a noticeable curve to this weapon.

A portion of the distal end of a throwing-stick shows two new features. There is a wrapping of sinew near the break. It may have been part of a strengthening band, but in its present condition this could not be determined. In this specimen the spur is much nearer the distal end than in the other specimens from the Southwest. The groove is quite shallow and the sides are parallel, whereas, in most of the others the spur end of the groove is wider. The stick, which is quite broad, is of the flat type and is well preserved.

In studying the Southwestern collections in the Deseret Museum of Salt Lake City, Utah, a wealth of material was found.

Of greatest interest, perhaps, was a throwing-stick found in San Juan Co., Utah. It was collected by Charles B. Lang and is well preserved. It is 1 foot 9 inches in length and the distal end is missing. The finger-loops are of buckskin and are 4 inches from the proximal end. The loops are $2\frac{1}{2}$ inches wide. The buckskin thong was split, as in other specimens noted, and forced down the stick to its proper position. It is cross-bound at the split part with sinew. A wrapping of sinew extends $2\frac{1}{2}$ inches beyond the distal end of the loops. Under it are vestiges of feathers and coarse bristles, that may be of the porcupine. The space between the loops is filled on both sides. One surface, the upper, is covered with a flat piece of rawhide, while the back part has a raised apron-like piece of the same material.

The stick is $\frac{3}{4}$ inch in width at the broken part of the distal end and tapers to $\frac{9}{16}$ inch at the proximal end. The stick is divided into sections by rings in the form of incisions. The first section formed by these rings is 10 inches from the proximal end with a width of $4\frac{13}{16}$ inches. On the upper part of this section there is a groove in which a dart might rest when in position for throwing. It begins at the ring nearest the distal end, but does not extend to the opposite end of the section. This groove is quite shallow. The next section is $3\frac{9}{16}$ inches long. It has a groove similar in form to the one in the first section, but it is on the under part of the stick. This groove is not uniform, being broader at the distal end of the section. One of the rings of this section is not well defined on the upper part of the stick, as there is a deep groove beginning at a point 1 inch from the distal ring of the first section and broadening out until, where the break comes, its limits are the edges of the stick itself. The stick is warped, but part of the curve may have been intentional. When placed in a horizontal position the highest point on the under side of the stick is $\frac{3}{4}$ inch above the plane upon which it rests. The greater part of this stick, the middle portion, is round, whereas all others are flat, or nearly so. The diameter of the shaft is $\frac{3}{4}$ inch.

This specimen shows the ceremonial element in the materials noted under the wrapping near the loops. It is to be regretted that

the distal end is missing, as it might have presented interesting features in connection with the groove that extended from it.

It seems that no matter where this weapon is found it has its ceremonial usages. In the North we have the totemic form of the Tlingits, in Florida the animal-decorated thrower of the ancient Key Dwellers and highly ornate forms in Mexico.

THE THROWING-STICK SHAFT.

The Patzcuaro throwing-stick is the nearest historic relative of our Southwestern form, and we are fortunate in having a description of the spear used with that weapon. Professor Mason presents the information as follows: "The spear-shaft is 10 feet long, of slender cane and has a hole at the after end for the hook of the throwing-stick. The gig consists of three iron barbs, for all the world like those on the Eskimo trident for waterfowl." This spear is of the compound form, having a fore-shaft of wood and iron, which is fastened to the main shaft with a cord.

Information relative to the ancient atlatl spear, as used in Mexico, shows that they too were made of cane. Quoting again from Mrs. Nuttall we learn that "A tradition, as recorded by Torquemada, tells that it was this Indian Mars (Huitzilopochtli) who incited the Mexicans to battle and had given them the weapons with which they fought, namely, the long spears made of cane stalks and tipped with obsidian, which they threw with a certain implement called 'atlatl.'" Finally, Tezozomoc, in his graphic description of the military drill, performed by the Tlatelulcan warriors preparatory to their rebellion against Mexican supremacy, specifies their use of 'sticks' hardened by fire (*varas Tostados*)," and Mrs. Nuttall continues: "We know that sticks with points hardened by fire were thrown by atlatl, and Sahagun's manuscript contains numerous illustrations of such."

We find that the cane spear was also used in Florida. Cushing says, in describing the single-holed atlatl found at Key Marco, "It was found associated with the plugged and hollowed or 'footed' shaftment of an elaborate cane-throwing spear."

Thus we have descriptions of the forms of spears used with the throwing-stick in the southern portion of North America. Those of the North, being heavier in form and generally made of wood and ivory, need not be considered. We have found that both cane and wood were used in the South and these materials are also in

evidence in the remains of the Southwestern people.

There is a main shaft in the University of Pennsylvania collection which contains a bone in the proximal end. The shaft is about 22 inches in length and is made of a branch which has a pithy core. The shaft has been smoothed and is ornamented with incised lines. The distal end has a well-formed sinew-strengthened socket. The bone has the appearance of a bodkin and has been pushed into the end of the shaft to such a depth that the wood split. This portion of the stick has been bound with sinew, the object being to strengthen it. The protruding end of the bone is sharpened and, though the use of this protruding piece cannot be determined, it would seem that it might have been used in fastening two portions of the shaft together. The stick in its present condition is not long enough for effective use, hence the presence of the bone shaft would indicate either an attachment as indicated, or else some secondary use of the shaft. There are portions of three other shafts in this collection, but being fragments and presenting no special features, they are not worthy of detailed description.

In the Hyde Collection, American Museum, N. Y., there are nine shafts that were used with the throwing-stick, all of which are imperfect. Two are made of reed. One of these is 1 foot $8\frac{1}{2}$ inches long and $\frac{7}{16}$ inch in diameter. The proximal end is missing, but the distal or socket end is intact and is bound with a split yucca leaf. There is no evidence of this specimen having been feathered. The remaining seven pieces are of wood. Four show the proximal and three the distal end. Three of the proximal ends (Fig. 2) are particularly interesting: the fourth has no



Fig. 2.

special features, unless it be the fact that it is stained a dark carmine, probably from natural agencies. All of these specimens are made from small branches from which the bark has been stripped, but very little smoothing is noticeable, the knots being

strongly in evidence. The largest fragment showing the proximal end is 1 foot $8\frac{1}{4}$ inches long and $\frac{7}{16}$ inch thick. It tapers slightly near the end containing the depression that fits the spur. Three and a half inches from this end there is a wrapping of sinew with evidences of three pieces of sinew cord having been bound beneath it. One of these is still in place and parallels the side of the stick. As the other specimens have similar cords and are in a better state of preservation we will treat this subject in detail when describing them. At the broken end of the stick, before mentioned, which, it will be remembered, is 1 foot $8\frac{1}{4}$ inches from the end, there are fragments of two feathers. They are heavy and are on opposite sides of the shaft. The sinew with which they are bound is thick and broad. These feathers evidently extended toward the proximal end, but how far or what the relation of the three cords, which are 21 inches from the wrapping, cannot be ascertained.

A second proximal fragment, $10\frac{3}{4}$ inches long, shows a binding of sinew 3 inches from the end, under which are fastened three yucca cords which are wrapped with sinew. Two are placed on opposite sides of the stick, paralleling the sides and one on the upper part, equidistant from the others. This left a flat space on the under part of the shaft that rested upon the throwing-stick. There are evidences of feather quills under these cords, especially the top one and on one side. In the binding of the stick first mentioned the missing cords would have been on the same sides of the stick as were the feathers. One of the cords of the second stick is $\frac{3}{4}$ inch long, and from the break it might have originally been much longer. The shaft of this specimen is also a deep carmine, no doubt the result of earth stains.

The third proximal shaft-end shows a variant of the three-cord problem. The cords are made of twisted sinew and are placed equidistant instead of leaving a flat space, as in the other two cases. The sinew that binds the cords to the shaft is $2\frac{1}{2}$ inches from the end and the depression in the end is somewhat deeper than in the other specimens noted.

In following out the suggestions of the three cords and the general question of feathering, it was ascertained, through experiments with models, that feathers attached to cords retarded the flight of the shaft, whereas a large eagle feather fastened on either side of the shaft proved much more efficient. Time, how-

ever, would not permit of experiments exhaustive enough to draw any definite conclusions, as length of shaft and weight of fore-shaft proved to be as great factors as did the feathering.

Of the three distal of fore-shaft ends of the spears (Fig. 3) or darts, the longest is 1 foot 7 inches, with an average diameter of $\frac{3}{16}$ inch. The hole in the end is cone-shaped with a depth of $1\frac{1}{4}$ inches. A heavy wrapping of sinew begins about $\frac{1}{2}$ inch from the end and extends $1\frac{1}{2}$ inches. There is a raised part on one side caused by what appears to be a piece of horn, which is almost concealed by the wrapping. There is another specimen similar to this, having practically the same diameter, the only difference



Fig. 3.

being in the sinew binding near the end, which is only 1 inch broad. A third, a fragment of a dart shaft, 10 inches long, is $\frac{5}{8}$ inch in diameter and is really heavy enough to be the shaft of a short hand spear. It has a hole in the end, similar to the other shafts, and the end is notched, evidently to make a rough surface to hold the binding. We have fore-shafts large enough to warrant a shaft even heavier than this, but may we not assume that they were part of a hand spear used in connection with the throwing-stick for close work? In describing the four figures carved on the posts of a doorway of a building known as the "Tennis Court" at Chichen Itza, Yucatan, Mrs. Nuttall says: "They show us that beside several long light darts, and an atlatl, a warrior also carried a short heavy spear, provided with a large barb, single or double." Such a weapon would have been not only advantageous, but really indispensable under certain conditions, especially in repelling an attack in a cave.

There are no perfect main shafts in the Deseret Museum collection and only two broken ones. Both of these are made of wood and are distal ends. One has a length of 1 foot 6 inches, with a diameter of $\frac{1}{2}$ inch. It has sinew wrappings near the fore-shaft end. They begin $\frac{3}{4}$ inch from the end and extend $1\frac{5}{16}$ inches.

It was found in Cave No. 3, San Juan Co., Utah. The other is $9\frac{1}{4}$ inches long and $\frac{5}{8}$ inch thick; sinew wrapping begins at the extreme end and extends $1\frac{1}{4}$ inches toward the proximal end. These specimens are similar in all respects to those from the Hyde collection, shown in Fig. 3.

There are two distal ends of main shafts in the Walker Museum, Chicago, both of which have wrappings of sinew to strengthen the walls of the opening in which the fore-shaft rests.

FORE-SHAFTS.

Almost all large collections from the Grand Gulch country of Utah have one or more of the fore-shafts, which served as a point for the spears or darts that were used in connection with the throwing-stick, as shown in Fig. 4.



Fig. 4.

The Hyde Collection is especially rich in this respect and contains more types than any other known collection. The Hazard Collection, University of Pennsylvania, has a number of interesting fore-shafts—there is one that Mr. Cushing has labeled: "Fore-shaft of throwing-spear or harpoon, broken and girdled for attachment of new point, showing wind grooves of the four directions." These grooves are straight and run the full length of the shaft. There is another with a feather bound to the shaft end with the inscription "Fore-shaft of throwing-dart feathered for war sacrifice." There are a few of the regular form with stone heads, and a small one entirely of wood.

The fore-shaft material in the Hyde Collection presents a series that shows the various stages in the manufacture of the implement. The first steps in the preparation of the wooden part are shown, and eleven specimens are presented in various stages of completion. One shows a section of a branch, one end of which has been pointed. Another has a rough surface, the only parts that have been worked being the ends. The remaining nine are finished specimens, showing the slot in the end for the reception of the stone point. In making this slot the shaft was split, probably with a wedge, then the center piece was cut away. Most of the specimens show that the cracks, due to splitting, extended below the base of the slot, but these did not detract from

the aesthetic appearance of the completed shaft, as they were covered by the wrapping with which the stone point was fastened. When this work was completed the stone blade was made. Most of these have well-formed, deeply-notched bases. They are larger than arrow-heads, being really of the knife or spear size (Plate II, Fig. 2). They are fastened to the shaft with heavy wrappings of sinew, and occasionally piñon gum is added to make it doubly secure and water-tight. On Plate II, Fig. 1, is also shown three perfect fore-shafts of the smaller size, averaging $5\frac{1}{2}$ inches in length. These fore-shafts are the same in form as the knives used by the old people, the only difference being in the finish of the handle, one having a square end, whereas the other is pointed.

In Fig. 5 three specimens are represented which were

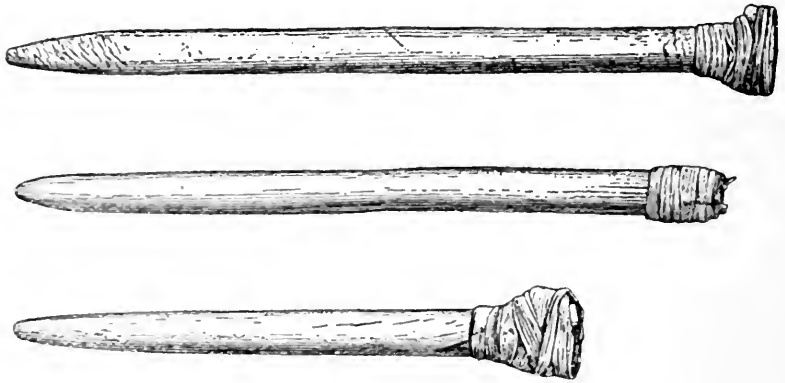


Fig. 5.

probably broken by use. Each of these shows the tang of the chipped stone blade almost covered by the sinew-binding. In each case the point broke off almost flush with the end of the shaft. In describing the main shafts a mention was made of one that might have been used as a short hand-spear. Plate II, Fig. 3 shows a fore-shaft that was perhaps used with such a spear. In diameter it is nearly $\frac{1}{4}$ inch larger than the other shafts, and the blade end is made heavy by the addition of a mass of gum that completely covers the wrapping. For hand to hand work in repelling an attack, or in defensive work of any kind, a compound spear of this nature would seem to be an efficient weapon, as new points could be added after each successful thrust, which would obviate



Fig. 1.

PLATE II.

Fig. 2.

Fig. 3.

the necessity of a struggle to disengage the spear, if not of an actual surrender of the weapon. This specimen is interesting as viewed in the hypothetical light, but it has a unique feature that is more valuable to the student. That is the cord that is fastened to the shaft. This cord is made of yucca fiber and is of the two-strand type. The shaft has been grooved to receive the cord which was carefully tied with a square knot. Two other loose knots are in evidence, but these may have been tied by the collector, or some busy-body before the specimen became the property of its present owner, Dr. T. Mitchell Prudden. The strings are $4\frac{1}{2}$ inches long and the ends are finished, showing that the fore-shaft in its present state is probably complete. This peculiar form was found in the same region that has furnished all of the Basket Maker material, but there seems to be nothing from that part of the country that could shed any light upon the subject. Mrs. Nuttall calls our attention to the fact that Clavigero and other writers speak of "A cord attached to the spear and fastened to the arm of the individual using it," and says "In aquatic chase such a cord would fulfil the important and useful purpose of securing prey and preventing the loss of the harpoon." This seems to pertain to the main shaft, whereas, in this instance, the cord is attached to the fore-shaft. Prof. Mason's description of the Northern form of spear, with detachable head, will, I think, make the subject more clear. He says¹ "The barbed point will fasten itself into the animal, detach itself from the ivory fore-shaft and unwind the rawhide or sinew line, which is securely tied to both ends of the light wooden shaft, by a Martingale device. The heavy ivory fore-shaft will cause the shaft to assume an upright position in the water, and the whole will act as a drag to impede the progress of the game." The string on the Utah specimen was, it would seem from this evidence, a part of some form of drag, but we must look further, for the aquatic form would hardly apply to the Southwest.

As though to straighten out the difficulty, we have an example among the Thompson river Indians, of British Columbia, who use a rabbit arrow with string attachment. This arrow has a detachable point and from it extends a cord which is fastened in the middle of the shaft. When a rabbit is wounded its struggles release the main shaft, which acts as a trailer and by catching in

¹ Smithsonian Report, 1884, Part 2.

the underbrush serves the same purpose as the drag, described by Prof. Mason. This furnishes a plausible explanation, which will have to remain as the possible use of the cords in question on the fore-shaft until we have more material from this region for comparative study. I know of no main shaft that shows evidences of the attachment of a cord unless the three cords near the proximal end of some of the fragments were utilized in some such way.

In examining the Hyde Collection from southeastern Utah, three specimens that had been classed as bodkins for matting or sandal work were noted. In studying the throwing-stick problem, however, I discovered that they were *bunt* fore-shafts for the darts used with that weapon (Plate III). They are made of the lower ends of deer tibia, into which a short wooden shaft is inserted. They average $3\frac{5}{8}$ inches in length and two of them have a wrapping of sinew around the socket end, from which a sinew cord extends to the shaft where it is tied. The distance from the bone to the knot is $\frac{1}{2}$ inch. The bones forming these points have been carefully cut, and the ends have been ground.

A *bunt* fore-shaft made of deer bone was found in the collection of the University of Pennsylvania. It is made of the end of a deer tibia and has a wooden plug inserted. There is no sinew-wrapping in evidence, but in all other respects it is similar to the ones in the Hyde Collection. It is a rather crude specimen. The end of the bone is not ground and the piece in its entirety has an unfinished appearance. It is $3\frac{1}{2}$ inches long over all, the wooden plug being $1\frac{3}{8}$ inches in length.

The use of *bunt*-pointed arrows is wide-spread, and Prof. Mason, in his article on "Aboriginal American Zootechny,"¹ mentions and figures "throwing-sticks and stunning darts from Xingue River, South America." There are three darts with *bunt* heads shown, the authority being Prof. Von Den Steinen. The existence of these *bunt* points may be accounted for in various ways. The use of such a point would enable one to kill an animal without breaking the skin, which would be desirable, if the skin were to be utilized. Again it might have been used to procure animals for ceremonial use, for instance, Dr. Washington Matthews, in his memoir, "The Night Chant—A Navajo Ceremony," states that certain animals must be caught alive, or only stunned

¹ Am. Anthropologist (N. S.), Vol. I, January, 1899.



PLATE III.

or wounded so that the priest may close the mouth ceremonially with sacred pollen. This prevents some of the life from escaping, whereas all would escape and render the skin lifeless were the animal to be killed outright.

The fore-shafts in the Deseret Museum Collection in Salt Lake City present a series well worthy of attention and study. They were measured by the writer and the data, which follows, was obtained from the records in this Museum.

FORE-SHAFT FOR THROWING-DARTS IN DESERET MUSEUM.

1. $7\frac{1}{4}$ inches long, found in Cave No. 4, San Juan Co., Utah, Museum No. 564. Found with body of "Old Medicine Man," collected by Lang previous to 1894. Point of red and yellow jasper, fastened with sinew; in good condition; stone point $1\frac{1}{4}$ inches long, $\frac{7}{8}$ inch wide.

2. Museum Collection No. 565. $8\frac{5}{8}$ inches long, point chalcedony $2\frac{1}{4}$ inches long, base $1\frac{1}{8}$ inches wide. Cave No. 1, San Juan Co., Utah. Collected by Lang. Point fastened to shaft with sinew. Perfect specimen.

3. Museum Collection No. 554. $9\frac{1}{8}$ inches long, chalcedony point $2\frac{1}{2}$ inches long, base $1\frac{1}{4}$ inches wide. Found in Cave No. 1, San Juan Co., Utah. Collected by Lang. Perfect specimen.

4. Museum Collection No. 553. Length $8\frac{1}{8}$ inches, point jasper $1\frac{3}{4}$ inches long, base $\frac{3}{4}$ inch wide. Heavily wrapped with sinew at joint of point and shaft. Perfect specimen. From Cave Dwelling, San Juan Co., Utah. Lang's Collection.

5. Museum Collection No. 562. Length $9\frac{3}{4}$ inches, point red jasper $2\frac{3}{8}$ inches long, $1\frac{3}{16}$ inches broad, sinew bound at joint. Shaft somewhat heavier than usual. From Cave No. 1, San Juan Co., Utah. Collected by Lang. Perfect specimen.

6. Museum Collection No. 563. Length 10 inches, point jasper $2\frac{7}{16}$ inches long, $1\frac{1}{8}$ inches wide. Cave No. 1, San Juan Co., Utah. Perfect specimen. Collected by Lang.

7. Museum Collection No. 566. Length $9\frac{5}{8}$ inches, point chalcedony $3\frac{5}{16}$ inches long, $1\frac{3}{8}$ inches wide. One of the largest stone points known in a foreshaft. Sinew wrapping at joint very heavy. Cave No. 1, San Juan Co., Utah. Collected by Lang. Perfect specimen.

8. Museum Collection No. 567. Length 11 inches, stone point

chalcedony $2\frac{5}{8}$ inches long, $1\frac{1}{4}$ inches wide. From Cave No. 1, San Juan Co., Utah. Collected by Lang. The wrapping of sinew at joint of point and shaft is partly decayed, otherwise a perfect specimen.

9. Museum Collection No. 555. Length $10\frac{7}{8}$, point red jasper $2\frac{1}{4}$ inches long, $1\frac{1}{4}$ inches wide. Sinew that bound point to shaft missing, otherwise a perfect specimen. Found in Cave No. 1, San Juan Co., Utah. Collected by Lang.

10. Museum Collection No. 561. Length $11\frac{1}{4}$ inches, point red jasper $2\frac{1}{2}$ inches long, $1\frac{1}{4}$ inches wide. Perfect specimen. Found with No. 531, Cave No. 1, San Juan Co., Utah. Collected by Lang.

11. Museum Collection No. 552. Length $8\frac{3}{4}$ inches, point jasper 2 inches long, width $1\frac{1}{8}$ inches. Perfect specimen. From Cave No. 1, San Juan Co., Utah. Collected by Lang.

12. Museum Collection No. 556. Length $9\frac{3}{8}$ inches, point jasper $2\frac{3}{8}$ inches long, $1\frac{1}{8}$ inches wide. Shaft warped, otherwise perfect specimen. Found in Cave No. 1, San Juan Co., Utah. Collected by Lang.

13. Museum Collection No. 560. Length $9\frac{1}{4}$ inches, point jasper $3\frac{1}{4}$ inches long, $1\frac{3}{8}$ inches wide. The wooden shaft is decorated with incised lines, forming a cross-hatching which covers the entire surface to the place where it entered the main shaft. The sinew-wrapping is partly decayed. Found in Cave No. 1, San Juan Co., Utah. Collected by Lang.

14. Museum Collection No. 558. Length $6\frac{1}{4}$ inches. Wooden shaft of fore-shaft, stone point missing. Found in Cave No. 3, San Juan Co., Utah. Collected by Lang.

15. No Museum number given, old number in ink No. 698. Entire wooden fore-shaft $4\frac{3}{8}$ inches long. Point somewhat blunt, seemingly from use. From Lang's Collection.

Almost all of these fore-shafts are above the general average, as shown in other collections, one with a length of $11\frac{1}{4}$ inches being the largest known. The following table, taken from the above data, makes an interesting study of this large type of fore-shaft. As the stone point is always inserted in the end of the wooden part the length of the entire object is given, followed by the measurements of the stone tip:

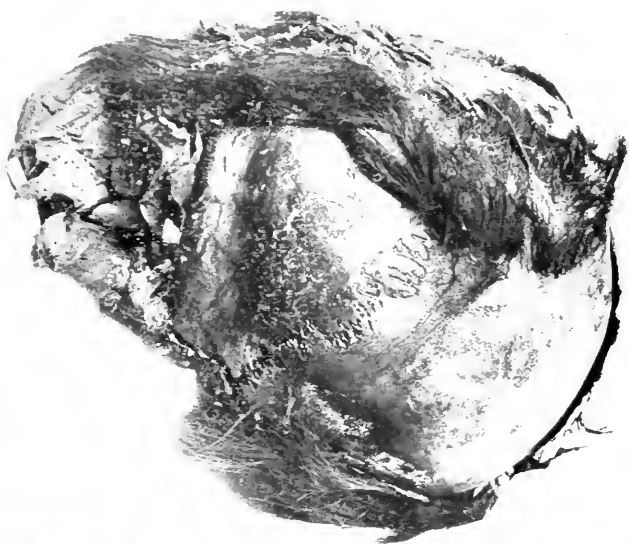


Fig. 1.



Fig. 2.

tigators if we may hope to grasp the various phases of this implement, both utilitarian and aesthetic, in this part of the United States. The ceremonial form seems to predominate and we may therefore, look to the myths and traditions of both the sedentary and nomadic peoples who now inhabit this area for new light upon this interesting weapon.

Are there Pygmies in French Guiana.

BY

L. C. VAN PANHUYS.

In a work of recent date, but not generally known, a communication has been made about the probable existence of a dwarf race in French Guiana; it may prove of some interest to bring that news to the attention of Americanists. I will admit that I felt somewhat sceptical on reading it, and that the communication,—the part relating to the rather doubtful reminiscences of a child of six years excepted,—suggested to me strongly, as I think it will do to many others, the “faits et gestes” of a band of monkeys. But we may be consoled that, even if the existence of pygmies in that part of South America proved to be a mere tale, the news would still have some value for folk-lore.

The book “Les richesses de la Guyane Française et de l’ancien contesté Franco-Brésilien” by Georges Rousseau, was published in 1901 by the Société d’ éditions scientifiques, 4 rue Antoine Dubois, Paris. On page 32 the author says about this:

“It was in one of these (gold-diggers) camps that I heard for the first time of the Maskalilis, troglodytes of Guiana, who leave their shelter only at night and dwell on the most solitary mountains in the wood. They are dwarfs, smaller than the Akas in Africa. They are redskins and have long black hair. They walk naked in troops at night, led by a chief who utters from time to time a peculiar cry for rallying, always the same, and the band answers in chorus. They go considerable distances in this way with an extraordinary agility without leaving a trace or cutting down a branch, even when penetrating the thickest underwood. In that way they reach the plantations of coffee, maize and sugar in the coast region, and strip them in an instant, without uprooting or destroying the trees. They steal children and give them back some years later, as brutes or idiots, having often lost the use of speech. At Cayenne a woman, Marie, surnamed *Maskalili* is

known, who was stolen by them in that way, and I had for a long time a miner in my service as hodman, Simona Idaric—I add the name—who remembers having dwelt for two years (from 4 to 6) in dark caverns, with a family of Maskalilis, where he was fed upon crabs, sweet water molluses, roasted fishes, fruits of the forest, roots and roasted coffee.

Indians and blacks have a superstitious terror of the Maskalilis and if (by chance) their whistling or rallying cry is heard at night round camps and villages, a native would not for anything in the world look at or meet these mysterious beings.

Will these troglodytes, if they exist, be of a very inferior race? Will they be perhaps the long-sought-for "missing link" between monkey and man? They know neither iron nor fire, and have no articulate speech. Is it a truth or a legend? What is known for certain is that lost children are found again two or three years later, on the spot of their disappearance; then there is still that intelligent pillage, bean by bean, of the coffee plantations by these unknown beings, the traces they have left and their rallying cry, half whistle, half human voice, and which I heard myself. I tried several times to see them, but never succeeded.

Degenerated man, or very developed monkey, the Maskalili exists. "Is a mystery to be cleared there, and a scientific problem to be solved?"

So far the author, Mr. Rousseau, who by the bye has spent eleven years at his explorations in Guiana.—

There is some contradiction in what Mr. Rousseau says, that the Maskalilis do not know the use of fire, but that they gave the stolen child roasted fish and roasted coffee (the poor child may, however, have lost its sense of taste). It must be further observed that Dr. Crévaux did not mention the Maskalilis.

He gives no information about such a race, when he relates what Apatou (Apattoe, the well-known Bonni-negro chief who accompanied him on his explorations, told him about the wanderings of his people through the interior of French Guiana. As far as I know from literature and also from my sojourn of nearly five years in Dutch Guiana, there has never been a question of the existence of a dwarf race in that neighbor colony. I lived for more than two years and a half at the frontier river between French and Dutch Guiana, very often came in contact there with

the Aucaner-Bush negroes, also with Bonni negroes and with Apattoe¹—but heard no word about the Maskalilis. We must not forget, however, that Dutch Guiana (Surinam) is still in part a wholly unknown country.

At the Congress Session Professor von den Steinen remarked that tribes of small stature exist in Brazil. Mr. Stansbury Hagar from the Brooklyn Institute told me that pygmies are spoken of in Peru in "How a Pygmy Race was Found," by R. G. Hali-burton. I may add that in an old Dutch work "Nieuwe Wereld," by Joannes de Laet, published in 1625, it is mentioned on folio 436 that the Motayas, a small and brown (colored) people in the interior of Brazil, cut their hair round the head and are men of small stature.

¹ His name is Apattoe (a pot) and not Apatou (a war club) as I explained in the *International Archiv für Ethnographie*, 1898, Bd. IX, page 55.

Social Organization of the Cheyennes.

BY

GEORGE BIRD GRINNELL.

The Cheyenne tribe is made up of two sections, one known as Tsís tsís' tas, sometimes called the Sand-hill people, and the Suh'tai, recent migrants from the north who will be spoken of farther on. What the earliest relations of these two tribes had been we do not know, but we do know that their amalgamation, and the absorption of the Suh'tai into the Cheyennes, where it remains now only as a clan name, must have been slow, for as recently as 1830 we are told that the Suh'tai, if they did not still retain their own tribal organization, at least camped by themselves, and regarded the Cheyennes as a different tribe. They then retained their own language, at least to such an extent that Colonel William Bent, who saw them at that time—before Bent's fort, or Fort William was built—stated that he could understand what they said only with the greatest difficulty.

It has been denied that the Cheyennes had a gentile system. Mr. Mooney, who, in his admirable study of the Ghost Dance Religion, gave some attention to this tribe, states, however, that the Cheyennes had eleven divisions in their tribe, and publishes a camp circle with the names of these divisions, some of which agree with those with which I am familiar. He does not state—nor was it known at the time his work was written—that these divisions were bodies of kindred.

Nevertheless a clan system existed among the Cheyennes, and old people in the tribe still give the names of the clans and the order in which they camped. Each gens is supposed to be descended from a common ancestor, and all its members are regarded as related to one another. For this reason marriage within the gens was not permitted, and it was not until about the year 1864 that people began to disregard this law concerning marriage, and openly to violate it, and to marry their cousins.

The Cheyenne gentes numbered at least eleven and perhaps fourteen. Their names, beginning with the first clan, south of the opening of the camp circle—which was to the east—and moving around that circle to south, to west, to north, and to east, were as follows:

- | | |
|-------------------------|--|
| 1. I víst' tsǐ nǐh' pah | Small Windpipes |
| 2. Mo wís sǐ yǔ | (?) Many Flies |
| 3. Ho ǐy ǐ ma naǐ | Scabby Clan |
| 4. Hěvǎ tǎn i u | Hairy Men |
| 5. Hǐssí o mé tǎn i u | Ridge or Hill Men |
| 6. Wǔh tǎ pi u | (Unknown) |
| 7. Hǒf nowa | Poor People |
| 8. Ōhk' to ŭnna | Unknown; said to be a Suǐ tai word,
and to mean "People drifted away."
It is said by some to mean "No leg-
gings." |
| 9. Sǔh tai | From the North. |
| 10. Mǎ sǐh kuh ta | Unknown. Said to refer to the early
gray hair which characterized the
clan. Possibly it means Ghost-Head,
from the color of the hair.
Later these were called Hotǎmǐ tǎn i u,
Dog Men, which was the name of a
soldier band and not of a clan. |
| 11. Ō mǐssís | Eaters. |

To these the Northern Cheyennes add three Tǎt ói ma naǐ, Backward or Shy Clan; Wǒhk' po tsít, obsolete name for white wolf; and Mǒhk ta hwá tan in, Black Men or Utes.

This was the order in which the clan circles were ranged in ancient times. Within the camp circle, on the south side, and forty or fifty yards from the inner circle of the lodges, stood the two sacred lodges in which were kept the two great medicines of the Cheyennes—the arrows, *mǎ hǔtǐ*, in the easternmost, and the hat or bonnet, *ǐssǐ wǔn*, in the westernmost lodge. Except for these two, no lodge stood within the circle, unless when—on some special occasion, as for a dance, a council, or some great feast—a large lodge might be erected in the center of the circle.

In old times the rule forbidding marriage within the clan was

absolute, and not to be violated. Descent was in the mother line. A woman born into the clan remained all her life a member of that clan, and her children were members of it. When a man married a girl he went to live with her clan, though always spoken of by his own clan name. Yet this residence was often but temporary, and subsequent events might alter it. His children belonged to their mother's clan, and not to the father's. The reason now given for that is that there was always a possibility that a man might throw away his wife and take a new one, and that in such a case the wife and children must be cared for by the woman's clan; that is to say, by her relations. When the woman's sons grew up and married, each went to live with the wife's clan. Rarely, if the father was divorced from his wife and took a new one from another clan, he might take with him to the clan he was now to live with his eldest boy, if he was approaching manhood; but this boy was always spoken of as belonging to the clan of his mother. A man might live in several clans during his life, a woman in but one.

As may be imagined from what has been said, the women exerted great influence in the tribe, and were in old times, and even are now to a great extent, the real rulers of the tribe. They are very often the leading spirits of the family, and their husbands usually follow their advice. It is only the strong women that possess this influence, but of them there are a good many.

If a woman of another tribe marries into the Cheyenne tribe, she has no clan, and never acquires one; her children belong to the father's clan. A captive woman, however, belongs to clan of the man whose wife she has become. She cannot change her clan afterward, even though she should marry another man. A number of years ago a Cheyenne man—of the *Hẽ và tăn i u* gens—married two captive women—a Pawnee and a Ponca. Both were called *Hẽ và tăn i hĩ u*, plural of *Hẽ' và tăn i u*.

Little boys were constantly being captured by the Cheyennes from other tribes, and being reared as members of the Cheyenne tribe. When such captives reached manhood and married Cheyenne girls, they belonged to the clan of the wife.

If a woman died leaving a very young baby, the father might move back to his own clan, and might possibly take this young child with him, to be reared by his female relations. In this case

the child was considered to belong to that clan. This did not often happen, however; the young child was much more likely to be retained by the mother's relations, her mother or sisters, to be reared by them, and to remain a member of her clan.

Children might not marry into the father's clan any more than into the mother's—their own. The law against inbreeding was thus in the old times—when it was rigidly observed—perfectly enforced.

At the ceremony of the medicine lodge the remnants of the clans still camp together in circles, but on other occasions the clans camp by themselves, not in a circle, but up and down the stream in clan groups.

No one can tell how long these clans have existed. Unquestionably they were slow of growth, and were formed one after another by offshoots from earlier clans. For example, George Bent tells me that it is generally believed that *Ho ʔvǎ manáh* and *Hě'vǎ tǎn i u* were once, far back, the same clan. Of course anciently there was no *Suh' tai* clan. If this is true there was a time when there were only nine clans. Tall meat says that it is reported that far back the clan *Hō'no wa* separated from the *Ohk' to ǎhna*. This if true would reduce the number of the clans by one more.

The ancient customs and beliefs as to relationships and clans have been so greatly modified by white association that it is now difficult to find among young people any one who knows anything about the matter. Such young people to-day assert positively that the child belongs to the father's clan, but the old men are unanimous in saying that the mother's clan was that of her children.

Each clan had its own special tabus, its own special ceremonies, and special medicines connected with these ceremonies. Since the rigid observance of the clan system passed out of being many years ago, it is not now possible to learn very much about these ancient practices. The people say that many of these medicines, and the laws connected with them, came down from the old, old people, many hundred years ago. Those who established these laws told them that they must obey the laws, and that as long as they did so they would do well; but if they neglected them, they would have bad luck and be scattered. When the tribe lived in

the north they followed these directions, but when they left their country and came south they forgot them; and now they are scattered and broken. The old things have all been lost since the Sand Creek massacre. Some of them, however, may be alluded to.

I vists tsi nih' pah.

The *I vists tsi nih' pah* gens might not dress or handle beaver skins. Not only did they fear to do this, but it actually made them ill to do so. The reason given is found in a story, which explains also the clan name. A very long time ago, a man belonging to this clan, named Porcupine Bear, found a large beaver dam. He looked for a place where there was a hollow in the side of the bank, and there set his trap. The next morning when he went down to look at it he found the trap sprung; a beaver had taken a cutting, and pressed the end of the stick on the pan, springing it. Porcupine Bear took the stick from the trap and reset it. In the evening when he looked at it again, it was again sprung in the same way. Every time he visited his trap it was sprung in this way. This made him angry, and he thought about it a good deal.

One night he dreamed that in the beaver house there was a big she beaver with many young ones. In his sleep the beaver spoke to him and told him that she did not wish him to trouble her young ones; but he was angry, and disregarded the dream, and told his wife of it, saying: "I shall go down to the stream and dig out these beavers. I do not care for that dream, and I am not afraid of the power of the old beaver." He and his wife dug into the house, and before very long they came to a large room where all the little beavers were crowded together at the back. They killed and threw them all out, and at last they came to the big mother beaver. She was large, and was spotted red and white. He knocked her on the head with his ax, took her home and skinned her, and told his wife to get a big kettle to boil the beaver, and that he intended to have a medicine feast of it. She cooked the flesh, and he sent for all the old men of his own clan, asking all to bring their medicine bags.

When the company was assembled, each man took out his medicine and placed it in front of him as he sat. There were many of them and they were ranged all about the lodge. There was much ceremony before they divided the food. At length it was ladled out into the wooden bowls, and there was enough for all, for the

beaver was very large and very fat. What they did not eat they carried away to their wives and children. That night every one in the camp who had eaten of the beaver became sick, with a strange sickness. Their throats swelled up so that the sick people could not breathe and almost choked. Hence the name, closed windpipes, or small windpipes. Ever since that time, if the members of that clan see a beaver or its hide, or smell it, or its musk, even if a man has only perfumed himself with it, it makes them sick. To go into a lodge where a beaver is, or to see one, makes the people of this clan sick. To step on a beaver track, or to gather a stick of wood cut by a beaver, makes some old women of this clan ill.

This Porcupine Bear is said to have been an ancestor of a later Porcupine Bear, the outlaw, who was known as the Lame Shawnee, who, if he had lived, would now (1901) have been more than a hundred years.

The Northern Cheyennes give a different origin for the name. *Ivísts* is the aorta of the buffalo, and the clan name arose from the use made of it by a war party which had no pipe and tied up one end of an aorta which they dried and then used as a pipe.

The Scabby Clan, *Ho ʔvĩ ma nah*, is said to have been camped in the north, when all their horses became mangy, and in the spring lost all their hair. Hence, the name of the clan.

In *Hẽ vã lãn iu* there was a special practice, originated about a hundred years ago, by Owl Man, or Owl Friend, of painting certain lodges, and making a special medicine for that camp alone.

Wũh tã pi u does not mean "haters," as given by Mooney, on the faith of B. Clark's statement. Old Indians say that it is a Sioux name, meaning eaters, the equivalent in meaning of the clan name; *O mĩs is*.

O tó gũn ʔ, given by Mooney, is merely another spelling of *Ohk' to ʔnna*. Some people say that this is a *Sũh' tai* name, and believe it means "People drifted away." This would perhaps imply a connection between this clan and the *Sũh' tai*. I have also been told that it means "No leggings".

Ohk' to ʔn'na had a lodge, in which a dance peculiar to that gens was practiced by the young men of the clan previous to starting out to war. This special lodge, known as the Deer Lodge, was set

up, not pinned together in front, but open, to the east. From the north and south borders of the opening of the lodge, parallel lines of cottonwood branches were thrust in the ground for about thirty yards to the east, the two lines being about twelve feet apart. The old men of the clan sat in the lodge, at the back, to drum for the dancers. Each dancer carried a shield and a lance, and was painted yellow over his whole body. One man, known as the Black Deer, was painted black all over. Except for a breech-clout, all were naked, and each man held in his hand, with the lance shaft, the tail of a mule deer.

The man who was making the deer medicine was painted yellow, and on his head wore one of the old parfleche sacks used for carrying meat and berries, which sack perhaps represented the horns of a deer. In their dancing the young men imitated the deer, running this way and that, and jumping to one side, and snorting. The dance was held in the afternoon, between these lines of branches, and lasted for perhaps an hour. It was a medicine peculiar to the clan, and was for protection against wounds, or death in war, as well as against any sickness. It is said that this dance has not been practiced since about 1870, and its details are forgotten.

The *Sûh' tai* tribe joined the Cheyennes after the latter had reached, and for some time inhabited, the Black Hills country. At that time, and indeed up to within twenty-five or thirty years, the clan still existed as a division of the tribe, whose speech was marked by various peculiarities, and the clan had some special customs of its own. At the time when the *Sûh' tai* joined the Cheyennes they were a large company, nearly as many, it is said, as there were of the Cheyennes themselves. For some time after they came into the country, they lived and camped apart from the Cheyennes, though maintaining very friendly relations, and constantly visiting them. At last, however, the two came together, and lived as one tribe. The Cheyennes used to say that the *Sûh' tai* were Cree Indians, and even to-day the Cheyennes say that the Crees are their close relations, and many of them believe the Cheyennes to be merely an off-shoot of the Crees. They say that they had similar customs, and that the languages are not markedly different. Both the tribes used to cut the hair over the forehead square across, letting it hang over, and stiffening the ends with

clay, and turning it up and outward. The Cree name for the Cheyennes is said to mean, "they talk a little Cree."

Although the *Sūh' tai* clan still exists in name, there remain very few people of known *Sūh' tai* descent. Among the Northern Cheyennes there are said to be less than a half dozen, and there the language appears to have been wholly forgotten. Among the Southern Cheyennes the clan is larger, and a few words of the language are still retained.

By all the testimony that is to be had, the *Sūh' tai* language was very harsh and guttural. It was hard to catch the sound of the words, and hard to comprehend them even if they were clearly heard. These are some *Sūh' tai* words:

English	Cheyenne	<i>Sūh' tai</i>
My wife	<i>Nā tsī im'</i>	<i>Nū wūhk'</i>
A long way off	<i>Hā' āish</i>	<i>Hā' āchk</i>
Going to play	<i>Nī ta nū wīt' tsīm</i>	<i>Nī tai ah tsīm a kūh' ūm</i>

An old and very intelligent woman pronounces the name, *Soh' tai yu*. She says the *Sūh' tai* always began to talk by saying *haiyahch'*. This reminds one of the Blackfoot exclamation, *haiyá*.

The *Sūh' tai* phrase, *Na mi gēn' i ōhk' a*, means "I am dizzy." In Cheyenne it would be, *Nā vīn' i ūts*.

These are some of the calls of an old *Sūh' tai* crier long ago. The words for men and women in his calls are Cheyenne, the others *Sūh' tai*. The *Sūh' tai* always repeated their words twice, while the Cheyennes were satisfied with a single call. *Hē īsts'* is the direct address, speaking "to women." Speaking "of women" would be, *hē ī' yū*.

Īnsh nkāāā', *īnsh nkāāā'*, (*Sūh' tai*). It is going to be stormy.

Īnsh kō hāo (Cheyenne). It is going to be stormy—meaning, it is going to snow.

Īnsh ka né ha, *ēnsh ka né ha*, (*Sūh' tai*). It is drizzling rain.

Īnsh ko á nīh (Cheyenne). It is drizzling rain.

Hē īst'sa, *hē īst'sa*, *mah ki han*, *Mah ki han'*, *Sūh' tai*.

Women get wood.

Hē īst'sa, *hmahú* (Cheyenne).

Women get wood.

Hē tān īsts', *hē tān īsts'*, *Hē ī' yū hōn' ūt*, *hē ī' yū hōn' ūt*.

Men men (with the) women go together (*Sūh' tai*).

Hê tăn ists' he í yu ví' ô tsím.

Men (with the) women go together (Cheyenne).

English	Cheyenne	Sūh' tai
Horse	<i>Mo íh' no hà</i>	<i>Mo nih' no hūm</i>
Terrapin	<i>Tūhk' to ím' a ín</i>	<i>Tahk' to tsím' a ín à</i>
His wife	<i>Hists e ím o</i>	<i>Hā vīn' oh</i>
Grindstone	<i>Ē yō hōh' tah ts ts</i>	<i>Nah tūh há ho</i>
Bridle	<i>Hūhk' tsī nai sī yō</i>	<i>Nūhk' á naí' sī yō</i>

Māh sīhk' kū ta as a clan name is now almost forgotten, having been superseded by the title *Hōtām' i tăn' i u*, which is the name of the Dog Soldier band. A long time ago *Māh sīhk' kū ta* was a very small clan. It was they, or at least a man belonging to this clan, who originated the Dog Soldier band; or if this is not true, it was at least he who made the Dog Soldiers famous. As the band became famous it was joined by many people. The group thus became a large one, but as it grew, it measurably lost its gentile character. The war-like attributes of the group overshadowed its gentile aspect, and it ceased to be known as *Māh sīhk' kū ta*, and took the name of the soldier band, so that now the old clan name is almost forgotten. The oldest people still use the name, but all the younger ones say Dog Soldiers.

Among the *Māh sīhk' kū ta*, gray-haired children were numerous; so much so that hair prematurely gray was almost considered a badge of the clan. *Māh sīhk' kū ta* is said, perhaps, to mean *gray hair*; possibly *ghost-head*, from the white color of the hair. The meaning appears to be lost, and I have learned nothing as to its etymology.

Many of the Dog Soldiers were half-breed Sioux or Arapahoes, men with Cheyenne fathers, and with mothers from other tribes, whose clan attachments were therefore loose. A Dog Soldier who married his wife from any clan took her to the Dog Soldier camp, but both people were still regarded as belonging with the clan of the woman. As long as seventy years ago the clan organization of this circle had been, in a measure, lost sight of, and in the minds of most people the soldier band organization was the chief thing. Fifty years ago the gentile name was rapidly passing out of use. By 1866 the women of the Dog Soldiers had lost the clan name, and were called *Hōtām' i tăn' i u*, or Dog Soldier

woman, not *Māh sīhk' kū ta i u*, or women of the *Māh sīhk' kū ta* clan. Girls of the clan, just becoming women, were called *Hōtām' i tām iks' i u*.

Among the more or less well-known members of the clan who became Dog Soldiers, and were known by that name fifty or seventy-five years ago, were Little Robe (died 1867, aged 80 or 90 years), White Bird (died about 1881, 88 years), Bull Bear (died about 1891, very old), Long Chain (died about 1888, aged 82 years), Red Wolf (died of old age thirty-five years ago). This gives some hint as to the time of the disappearance of the clan.

This clan was one of the largest of the Cheyennes, and the northern section of the tribe, which is made up chiefly of this clan, almost or quite equals the southern section in numbers. It is said that the name was given to the clan because they were not scrupulous as to their food. They would eat tainted meat, even, it is said, preferring it in this condition. A man who had in his lodge meat that had begun to spoil, would call others to the feast as to a great delicacy. As recently as fifty or sixty years ago, or perhaps even later, it is said that men used to keep buffalo humps until they had begun to spoil, and then would have the meat cooked.

Other men believe that the name was given because this clan was especially active and energetic, and so had food to eat even in times of scarcity. Either explanation of the name is sufficiently trivial; but, on the other hand, we know full well that the names of divisions of this, and of other Indian tribes, are often trivial, and given for very slight reasons.

The readiness with which nicknames, applied to camps, bands, and sections of tribes, may grow up is well shown among the Northern Cheyennes by a number of local names which have been given, and become current, within a very few years. Thus, the Lower Tongue River Cheyennes are called Scabby Band, because, it is said, Badger, a principal man among them, had a skin disease. Those who live on Upper Tongue River are called the Backward, or Shy Band, because they prefer to camp by themselves. The Lane Deer Indians are called Black Lodges, because they are on especially friendly terms with the band of Crows known as Black Lodges, while the Rosebud Cheyennes are called the Ree Band, because among them there are several men

who are related to the Rees. Two of these titles may refer to old clan names, but two are altogether modern.

The cholera of 1849 had a great effect in putting an end to the existence of the *Māh sīhk' kū ta* gens, and a great number of the Dog Soldiers died as well, for this group suffered with especial severity. Every one of the eleven gentes had cholera, and great numbers died; one-half, or more than one-half, of the tribe, people say. The gens, *Hēv'ă tăn i u*, did not know of the disease, and were moving north in a body when they met Gentle Horse's band, who had it. When the *Hēv'ă tăn i u* heard of this they fled, scattering in all directions, and of them not so many died as of the other bands. The *Ohk' to ūma* were nearly exterminated.

To-day there are still many of the *Hēv'ă tăn i u*, and of the Dog Soldiers. The *Hō ŭv' ma nah'* is rather numerous, and some old people belonging to it are still alive. The *Wūh' tū pi u* are almost all gone. The remnants of *Mo wis' si yu* have consolidated with the *Hēv'ă tăn i u*. Most of the men of the *I vists' tsī nīh' pah* are gone, but there are many women.

Ans kow' ŭ nī, given by Mooney, is not a clan name at all, but is a nickname given to a little band of the Northern Cheyennes. Broken Dish was the head of this group which separated from the Northern Cheyennes not very long ago, on account of the quarrel which took place over the guardianship of *Is' sī wūn*, the sacred bonnet of the Cheyennes. This band was called *Ans kow' ŭ nī*, meaning "narrow across the bridge of the nose" or, perhaps, "eyes close together." They were an outlaw band, and were regarded by the Northern Cheyennes with still further dislike after it was learned that the wife of Broken Dish had stolen one of the horns from the buffalo hat.

The Sand Creek massacre, and the fighting with United States troops, which took place between 1864 and 1869, had much to do with putting an end to the clan organization among the Cheyennes. As earlier stated, this organization received a severe blow in 1849, when the tribe was decimated by cholera. Finally, the separation of the tribe into the two sections, now known as Northern and Southern Cheyennes, putting an end, as it did, to the ceremonial gatherings of the whole tribe, to the important

festival of the medicine arrows, and, for the Northern Cheyennes, to the ceremonial of the medicine lodge, gave the finishing blow to the ancient social organization of these people, and has, in fact, almost driven from the minds of the Northern Cheyennes much of the memory of these earlier ways.

A Navajo Sand Picture of the Rain Gods and its Attendant Ceremony.

BY

ALFRED M. TOZZER.

The sand picture which I am to describe, with its accompanying ceremony, is one of a series of three paintings. This, in turn, is but a small part in the elaborate rites of the nine days' ceremony which Dr. Washington Matthews, in his memoirs lately published,¹ has called the "Night Chant," or "Yebitsai."

A little more than a year ago I was fortunate in being able to witness a full performance of this ceremony, which took place in Chaco Cañon, New Mexico, near Pueblo Bonito.

The rites were held primarily to cure two Navajo Indians, a man who had lost his voice, from the fact that when a boy he had broken the tribal law by making a mask of one of the gods and dancing in it. The other patient was a woman. She was afflicted with a general weakness of the body, due, according to the Indian explanation, to the fact that her father had broken a law of the tribes by witnessing a performance of one of the sacred ceremonies during the time when his wife was with a child. Sickness, according to the Navajo idea, is always caused by some violation of a tribal law, and the cure of this sickness must be in some form of a propitiation to the gods.

I shall not attempt even to touch upon the building of the circular ceremonial hut with its door to the east, nor the elaborate rites performed by the shaman over the two patients, which came on the first five days of this ceremony. I shall devote myself exclusively to a description of a sand picture in question and the details of the ceremony in connection with it.

Early in the morning of the sixth day the fire, which had hitherto been in the center of the hut, was removed, and a quantity

¹ *Memoirs Amer. Museum Nat. Hist. Anthropology*, Vol.—, 1902. As the drawing referred to in this paper is not reproduced, reference is made to the illustrations in Dr. Matthews' memoir.

of common brown sand was brought in and deposited on the floor of the hut or hogan in a layer of about two inches, leaving uncovered only a narrow strip around the edge of the room.

At the same time other men were at work grinding, between two flat stones, the different colored sand-stones which were to furnish the various colors for the picture. The red, white and yellow were simply the powdered rock, the black was a combination of the red with ground charcoal, and the color, which was intended to represent blue, was a mixture of the white sand with a little black, giving a soft grayish blue.

Every act of the ceremony was directed by a medicine-man or shaman, who was hired for the occasion by the families of the two patients at the expense of several horses and sheep. He had, as his advisors and assistants, old men of the tribe who had engaged in countless performances of this same ceremony. These men did very little actual work, but sat on the ground at the southwest side of the hut and kept a sharp lookout for mistakes in the younger men, who were engaged in painting the picture.

The middle portion of the brown foundation sand, running east and west, was first of all smoothed down with the blanket beaters of the women. Four men then started the making of the picture on this smooth middle portion of the foundation sand, moving outward in either direction as the center of the picture was completed.

The method of painting a sand picture is as follows: The sand of the special color required is taken up, a pinch at a time, the fingers then held to the mouth and blown in order to remove all stray particles of sand other than that between the two fingers. The sand is finally dropped upon the required part of the picture by slowly rubbing it between the thumb and index finger. In this way line by line, color by color, the figures gradually come out. The fundamental color of the bodies of the figures are made first and the clothing and ornaments sprinkled on afterwards.

The completed picture measured 9 x 13 feet, and the drawing here shown is half that size. The brown paper represents, as nearly as possible, the foundation sand. The heads of the figures point toward the east. These figures represent the four rain gods, Tonelili. The first colored black belongs to the north, the second, blue, to the south, the third, yellow, to the west, and the

fourth, white, to the east. These gods are male and are shown as wearing the blue painted buckskin mask, which is seen in many of the rites of this ceremony of the "Yebitsai." They are represented as coming from a cloud from the south, blue, and this, in turn, rises from a three-colored line, denoting the other three cardinal points. Each figure carries in his right hand a gourd rattle painted white, and suspended from the same wrist a tobacco pouch, elaborately decorated, and having in the center a representation of the aboriginal form of stone pipe. In this bag the god carries a ray of the sun with which to light his pipe. The god then smokes the pipe and from the clouds thus formed there comes the rain. The combination of the ray of the sun inside the bag and the rain which these gods are supposed to send is seen in the rainbow colors, red and blue, which outline the bag and which decorate the four points projecting from the bag.

From the left hand of each figure hangs a round water-bottle, the emblem of their office, and here, too, as you would expect, we find the rainbow colors in the line from the top of the water-bottle to the hand. The line around the wrist and knees also shows the same colors. From the elbows and wrists hang red and black ornaments, the nature of which I have been unable to find out. The yellow and blue line, by which these objects are suspended, represents strips of fox skin. The decoration at the left side of the head is a combination of owl and eagle feathers. Each god wears ear pendants and necklace of turquoise and coral. From the left of the top of the neck hangs a fox skin. The yellow line below the mouth is a counterpart of a line of the same color at the bottom of the masks, which are worn by the Indians in this same ceremony, and Dr. Matthews explains it as representing the yellow evening light.

Coming to the lower part of the figures, we find hanging from the left side a bag. The four white lines which run from the bag to the figure are the cotton cords by which it is attached to the waist. It is only in the decoration of this bag and the bottom of the skirt that the individual skill and inclination of the painter is allowed full play. Every other line in the entire picture is prescribed and unchangeable.

The red and blue stripe running around the north, west, and east sides of the picture is still again the rainbow. It is pictured

as female in sex, with its head at the northeast and feet and skirt at the southeast corner of the painting. The head is square and represents the square mask worn by those impersonating female gods. This mask covers only the front part of the face, whereas the male mask fits over the entire head, and in the sand pictures is shown as round. From the top of the head of this rainbow goddess projects a turkey feather, the white lines being the strings by which the feather is tied on. The ear pendants, the yellow line at the base of the mask, and the necklace are the same as are seen on the four gods. The skirt and bag, together with the rainbow colors at the wrists and knees are also identical with those on the other figures. The black lines at either side of the head are buckskin thongs, by which the mask is tied on.

The actual painting of the picture occupied about six hours. At its completion, the preparation for the rite for which it was made, straightway began. The demands of the ceremony were, for the most part, carried out by a masked man, who represented one of the Navajo gods, called Yebaka. This Indian was given instructions by the medicine-man, who superintended the ceremony, as he had done the making of the picture. The impersonator of the god arrayed himself in the characteristic costume of Yebaka. His entire body, with the exception of his face, was painted with a white earth, mixed with water. He wore a loin cloth of black velvet, decorated with ribbons and tinsel, together with pendants of feathers. This was held in place by one of the typical Navajo silver belts, oval plates of silver strung together on a narrow leather strap. A fox skin hung, tail downward, from the back of this belt. He also wore long stockings, tied around the knee with the red woven Navajo garter, and moccasins. From his wrists and elbows hung strings of ribbon. He was further ornamented with several turquoise and coral necklaces, silver bracelets and ear pendants. Dressed thus, he was ready for the mask, the adoption of which would change him from a man to a god. This mask was of buckskin, painted blue, and, as the god was male, fitted over his entire head. It had painted below the mouth a yellow line, the same as is seen on the masks in the sand picture. With the mask, thus decorated, he left the hut, hidden in his blanket.

The nose was composed of the smaller end of a gourd, painted

white, attached to the mask, and surrounded by a bit of fur. A fringe of coarse hair ran over the top of the mask, and around the neck was twisted a fox skin, also seen in the sand picture. Two turkey feathers were attached to the upper left-hand corner of the mask, and from the ends of each feather hung a small downy feather, plucked from the breast of an eagle.

The medicine-man, who had hitherto only directed the preparations, now arose with twelve feathered sticks. These were about sixteen inches long and a half inch in diameter. Six were painted black and were for the male patient, and the other six were blue, for the woman. Each stick was decorated with two tufts of ten turkey feathers each, tied around the stick and pointing upwards. From each tuft of feathers there hung down one small feather from the breast of an eagle. The medicine-man stuck these twelve sticks in the foundation sand just outside the rainbow border, four on each of the three sides. The eastern side had no border and, consequently, no sticks, as none other than good spirits lived in the east and no protection was needed from that quarter. After the picture had thus been fortified against the evil spirits of the North, South and West, by the feathered sticks, the medicine-man took up a basket filled with ground corn, and, standing at the eastern side of the picture, sprinkled, with the corn, each figure from head to foot and back again to the head. He also marked, with the ground corn, the head or mask of each god, including that of the border goddess, using great care not to drop any corn on the eyes of the figures, in which case both patients would become blind.

The order in regard to the application of corn and the other rites over the four figures was always the same, the blue god of the south first, the black god of the north second, followed by those from the west and east.

Beginning again with the blue god of the south, as it was from the south that the gods had come in a cloud, the medicine-man next placed a generous pinch of the ground corn on the following places on the figures, including that of the rainbow: at the top of the blue cloud which arose from the base line, on the right foot, the left foot at the belt, on the breast, on the right hand, the left hand, at the top of the neck, and lastly on the upper right-hand corner of the tobacco pouch. In doing this, he left his for-

mer position at the east of the picture, and walked on the foundation sand, using great care, however, not to disturb the colored design.

At this stage of the rite the two patients were called in. They straightway entered, each bringing a basket filled with the ground corn. They took up a position at the southeast of the picture. At the same time several mothers with small children came in, having paid to the medicine-man for this privilege a sheep. They sat at the north side of the hut.

The medicine-man now prepared a bowl of ground cedar, mixed with water, which he placed between the heads of the border figure and that of the black god of the north. On the hands of the rainbow goddess he placed a gourd vessel, its smaller end pointing toward the head of the figure. The gourd contained medicine, made principally of yellow corn pollen mixed with water. On the top of the gourd rested a sprig of cedar with its tip also pointing toward the head of the rainbow.

Singing now began, accompanied by a gourd rattle, painted white. At the lower end of this rattle, near the wooden handle which had been inserted, was the outline of a sheep in small round holes. Two other groups of holes were near the larger end, and these represented stars. The Indian explanation given me was that these designs were the outlines of two of their gods as they appeared in the heavens.

I have represented here the two groups of stars, arranged first according to the necessarily somewhat crude way on the rattle, and again, as the same stars really appear in the sky, according to the arrangement Professor W. H. Pickering, of the Harvard Observatory, has kindly given me.

The group on the left of the chart shows the stars as seen by the Indian and, according to his explanation, represents one of their gods. The two upper smaller clusters are the feathers attached to the mask of the god, the three stars in a line, his body, and the four separated stars the arms and feet of the imaginary figure. The second large group represent, according to Professor Pickering, the southeastern sky in the early evening in November, at which time this ceremony with the rattle always takes place. Considering the fact that the holes were made in the rattle when inside the hogan and so, entirely from memory, the striking iden-

tity of the two groups is remarkable. The smaller cluster of six stars at the top of the second large grouping is, of course, the Pleiades. Here, the Indian has added two extra stars. The second cluster of the second large grouping is the constellation Taurus, with Aldebaran the striking star. Here the holes in the rattle conform with great exactness. The minor group of four stars finds its counterpart in the five stars of the Indian grouping. At this point there is the greatest divergence between the two arrangements. The entire constellation of Orion with Rigel and the three stars of the belt is shown with great exactness in the Indian grouping.

We now pass to the third large group, which shows, according to the Indian explanation, the head and body of the north star man, and when we identify these stars, we find, as we would expect, that they appear in the northern sky at midnight, again in the month of November. The upper cluster is undoubtedly the constellation of Auriga, with Capella the striking star. As the body of the god, we find below two minor stars, a curious partial representation of Ursa Major, with the northernmost pointer and the base star, other than Merak, left out. The omission must have been intentional, as the stars left out are as great in magnitude as those represented. The stars omitted are shown by circles on the right-hand group on the chart. The reason for this omission I am unable to explain.

With but two exceptions then, the number of the stars in the Pleiades and the grouping of the minor stars above Orion, the Indian grouping as shown by the holes made in the gourd rattle, approaches with extraordinary exactness the actual appearance of the heavens. Polaris seems, I am sorry to say, to be missing.

The singers who sang to the accompaniment of this rattle were the medicine-man and the visiting shamans. After a short period of singing, the male patient disrobed to his breech cloth, and the female patient took off her moccasins, leggins, and the upper portion of her dress. Both then stood up at the east of the picture and striped the figures with the ground corn from their baskets, as the medicine-man had done before them.

The Indian representing the god, Yebaka, then entered the hogan backward. After taking up the sprig of cedar from the gourd on the hands of the border goddess and dipping it into the

contents of this gourd, he sprinkled each sand figure, and touched with the cedar the small piles of corn dust which the medicine-man had placed on the several parts of the bodies of the gods. An assistant then took up, in reverse order, as much of each of these piles as possible without destroying the picture. This rite sanctified the meal, which could now be used in the succeeding ceremonies.

At this point the two patients took their places on the sand picture, the man sitting on the skirt and legs of the blue god of the south, and the woman on the yellow god of the west. Both faced the east or open side of the painting.

The masked god, Yebaka, after holding the gourd which contained the medicine up to the smoke hole in the roof of the hut, gave the contents to the two patients to drink, uttering each time a piercing cry. That, which remained in the gourd, he gave to the women and children who were seated outside the picture. He then placed the bowl of cedar and water between the two patients, and they proceeded to rub the contents on their bodies. As in the other case, that which remained he gave to the mothers who carefully washed the bodies of their babies, at the same time almost greedily giving themselves a rub here and there on some afflicted portion of the body.

The god then blew twice in the face of each patient. Up to this time he had used great care to walk only on the foundation sand, and the picture, except where the two patients sat, was uninjured. What had gone before was in the nature of a consecration of the picture and a preparation of the patients for the vital part of the ceremony, which now was to follow.

Yebaka placed the palms of his hands on the legs of the two northernmost sand figures and straightway rubbed the legs of the male patient, uttering the same shriek as at the administration of the contents of the gourd. He followed this by rubbing his hands on the legs of the two southernmost figures, and on the corresponding part of the woman. In the same order he touched the hands of the black and blue figures, and then the hands of the male patient, following this by touching the hands of the yellow and white gods and the hands of the woman. In the same way the masked man rubbed the palms of his hands on the heads and necks of the four figures, together with those of the border, and

then rubbed the corresponding parts of the two patients. He concluded his participation in the rite by giving his peculiar cry twice in each ear of the two patients. After leaving his feather-decorated mask with the medicine-man, he left the hut backward as he had entered.

The ceremony over the man and woman ended by their inhaling and rubbing themselves with the smoke which arose when the shaman threw a powder, made, for the most part, of ground feathers, on two glowing coals, which had been placed in front of each patient. The coals were then carefully put out and the charcoal thus made was used on the next day for coloring the sand black for the succeeding sand picture.

By this time the painting was badly mutilated, and only portions of the former design remained. But in these small remnants there still lurked the power of healing, for at this point the singers leaped on the sand from the eastern side and rubbed themselves vigorously with the colored sand of any portion of the design which still remained. The twelve feathered sticks were then gathered up, the sand carefully scraped up, carried out in blankets, and deposited in a pile at the north of the ceremonial hut. Preparations were straightway begun for the evening rite in this nine-day ceremony.

Mr. Matthews, in his valuable memoir on the "Night Chant," says the following: "The shamans declare that these pictures are transmitted unaltered from year to year and from generation to generation." "It may," he adds, "be doubted if such is strictly the case." To my mind this is not a matter of doubt. As proof of this I would say that Mr. Matthews collected the material for his memoir twenty years ago, and still the sand picture which he calls "the gods with the fringe mouths," and which came on the eighth day of the ceremony, is the identical picture, even in many minor details, which was made on the eighth day of the ceremony which I witnessed twenty years after and a hundred miles east of where he worked. For two decades, at least, we can prove then that the designs have remained unchanged, and the past twenty years have been lived in close contact with the whites, many of whom have done their utmost to make the Navajo put away and forget his former beliefs and ceremonies.

If then the Indian has kept the varied designs of his sand

pictures unaltered during the twenty years that he has been in close contact with the civilization of the whites, how probable it is that these pictures and the accompanying ceremonies are the same to-day as centuries ago, when the gods came down at Tsenihogan, according to the myths, and gave the masks and instructed the Indians how to perform the ceremonies and paint the sand pictures.

On the Present State of Our Knowledge of the Mexican and Central Amer- ican Hieroglyphic Writing.

BY

EDUARD SELER.

I feel the heavy responsibility of being compelled to treat before this most illustrious assembly so intricate and difficult a subject as the pictography and the hieroglyphic writing of the Mexican and Central American tribes. Of course, you will not expect from me an exhaustive exposition of the matter in question. I must confine myself to a few hints, giving merely the results we have obtained and the lines in which future research ought to be conducted.

As to the Mexican pictorial writing, you are all aware of the great importance of the work that our honorary president, the Duke of Loubat, undertook in ordering made exact facsimile editions of the few ancient religious books that a good fortune had spared from destruction, and that are now preserved in the Italian and other European libraries. I am greatly indebted to His Excellency for enabling me to make a more detailed study of these relics, by asking me to write a commentary on various of these codices, printed, as well as the codices themselves, at the expense of His Excellency. Two of these commentaries, that on the *Tonalamatl* of the Aubin collection and that on the *codex Fejérváry-Mayer* have been published in the two preceding years. And I have now the honor to present to the Congress a commentary on the *Codex Vaticanus 3773*, accompanied by explanatory tables, giving the meaning of each figure and each symbol, as far as I have been able to make them out.

Certainly, the extent of the codices, as well as that of most of the inscriptions, as I understand them, will disappoint many readers. There are no detailed accounts of historical events of

the daily life, or of the religious belief, as on the walls of the Egyptian tombs, or in the hieroglyphic and hieratic papyrus. The whole bulk of the Mexican codices of this group is confined to calendaric and astrological purposes. But there is given in detail a number of vividly painted figures, gods and goddesses, clothed and arrayed in a very curious manner and surrounded by various strange symbols. I have been able to explain nearly all of the names of these gods and goddesses and the meaning of these symbols. Moreover, it is not only astrological matter that is treated in these codices, but there is also to be found quite a number of astronomical observations. The apparent revolution of Venus, embracing 584 days, takes up considerable space in these pictures. I could show, on two pages of the codex in question, the Vaticanus 3773, the existence of exact statements as to the beginning and the end of the period during which the planet Venus is seen as the morning star. Finally, a fact that is perhaps of greater importance than any other, there are distinct and unmistakable signs in the codex in question and in the allied manuscripts of a relation between these Mexican picture writings and the Maya codices. The sheets of the Vaticanus 3773, where the deity of the planet Venus is seen throwing his spear against certain other deities, five in number, according to the sequence of the five periods of Venus, have their exact counterpart in the sheets 46-50 of the Dresden Maya codex. The same is true for another page of the Vaticanus, that where the gods presiding over the five periods of Venus are represented. It is a fact that must be taken into consideration, that in the Mexican codices the gods playing part in these representations of the periods of Venus are well-known deities, revered in a similar way over nearly the whole Mexican area. This is not true of the corresponding sheets of the Maya codices. The greater part of the deities represented on them are *Ζπαξ λεσδ μενα*. They are only met with on these five sheets and differ entirely from the common types of the remaining part of the Maya manuscripts.

I now proceed to another group of codices, especially to one, the honor of whose discovery and reproduction is due to my distinguished and highly appreciated fellow-worker, Mrs. Zelia Nuttall, and to the leaders of the subventioners of the Peabody Museum of American Archaeology and Ethnology. This precious

manuscript, that rightly bears the name of its discoverer, and the allied manuscript of the Imp. R. Court Library of Vienna, represent another very different and very interesting type of Mexican and Central American codices. I agree with Mrs. Zelia Nuttall that these two codices are the ones which are alluded to in the "Carta de la justicia y Gobernadores de la Rica Villa de la Vera Cruz" of the year 1519, and that, in consequence, it is very likely that they came from the coast region of the Mexican country, and that they were the first Mexican books that reached the European continent. I have the following opinion with respect to their content. You see on the outer cover of the facsimile edition of the Codex Nuttall a group of two symbols, a group that, in fact, is a very common one on the sheets of this manuscript. It means the day "one crocodile" in the year "one reed." In my conception this is the first day of the Tonalamatl, or astrological calendar, in the first year of the cyclus of 52 years, or the beginning day of the first Venus-period in the first of the cyclus of 52 years, and, in all cases, where this group occurs, it marks the beginning of a particular reckoning. Starting from this day, one comes on the first three sheets of the Codex Nuttall to a day that marks the end of a period of 82 years, and starting from this day one comes on to the fourth page of the codex, and likewise on sheets 10 to 21, to the end of a period of 88 years and 361 days. Now, what is the meaning of these periods?

Eighty-two Mexican years are nearly 20 days ($-3\text{ h. }18' 59''$) shorter than 82 true solar years. Hence, this period means an intercalation of 20 days in order to make right the length of the year.

Eighty-eight years and 361 days are 55 Venus periods (reckoned at 584 days each) and 361 days, and this period is exactly the same as 55 true Venus periods (of 583 days, 22h., 6m., 40s.) and a solar year of 365 days. In order to make right the length of the Venus period one had to insert four days after 55 periods. The ancient astronomers expressed this intercalation by adding to 55 Venus periods (of 584 days each) a solar year minus four days. Hence, this period of 88 years and 361 days means an intercalation of four days, in order to make right the length of the Venus period.

Starting from the day "one crocodile" in the year "one reed,"

after having been completed the period of 88 years and 361 days, the following day beginning a second intercalation period of the Venus, is the day "eight wind." This is the "Lord eight wind" represented in so conspicuous a manner in the first sheets of the *Codex Nuttall*.

A third and most important group of manuscripts and inscriptions are those found in the area inhabited by the Maya people. We have the great honour to see amidst us at this Congress the man, who by patient labor of more than ten years, did perhaps the greatest work that could be done for the promotion of the study of the Maya hieroglyphic writing, Mr. Alfred P. Maudslay. The splendid photographs you see suspended on the frames, and the precious volumes that are before you are the marked signs of his work. I ask my audience to cast a glance on the development of these studies in the preceding century.

In 1831 the report of Captain Guillermo Dupaix on the ruins of Palenque and some of the drawings of his draughtsman Luciano Cartañeda were published in Lord Kingsborough's great work on "Mexican Antiquities." Ten years later, in 1841, John L. Stephens presented to the English reader his famous "Incidents of Travel in Central America, Chiapas and Yucatan," accompanied by excellent drawings of his traveling companion, Mr. Catherwood, giving for the first time an appropriate account of those wonderful monuments—"standing as they do in the depths of a tropical forest, silent and solemn, strange in design, excellent in sculpture, rich in ornament, different from the works of any other people, their uses and purposes, their whole history so entirely unknown, with hieroglyphs explaining all, but perfectly unintelligible."

It is only since his time, that European and American scholars became acquainted with the Mayan documents and the general character of the Mayan hieroglyphs. Some twenty years passed, and more, without any notable progress. A new impulse was given to the studies of American archaeology by the work of the "Mission Scientifique au Mexique et dans l'Amérique Centrale," and by the active energy of a man whose name stood for a long time in the first place in this kind of researches, Abbé Brasseur de Bourbourg. He rescued from undeserving oblivion a great number of treasures hidden in the archives and on the bookshelves of

the monasteries in Mexican territory and in Europe. With fervid zeal, he engaged himself in the study of the ancient history and the ancient languages of that region. He brought to light and interpreted the most of Waldeck's drawings and plans, the Troano manuscript, the Popal Vuh and Bishop Landa's *Relacion de las Cosas de Yucatan*. But endowed with a daring spirit and pushed forward by a fervent imagination, he dreamed of grasping at once the crown, and he fell short. A few pages written by a fellow-country man, my lamented friend Dr. Valentini, though not destitute of erroneous statements, were nevertheless sufficient to prove that the Rosetta-stone for the mysterious records engraved on the Palenque slabs had not been discovered, that the Landa alphabet used by Brasseur de Bourbourg as the starting-point for all his interpretations and his method of deciphering, is based on a misconception of the Maya graphic system, and is perhaps no more than a Spanish fabrication, or, at least, a development suggested to the Yucatec people by the European method of writing. Indeed, until this day, all attempts made to apply the genuine or a modified Landa alphabet as a key for the work of deciphering,—including the interpretations brought forward, some ten years ago, by the late Hilborne T. Cresson and Professor Cyrus Thomas—have proved to be a failure.

Another way, that of the independent study of the manuscripts, was entered by Cyrus Thomas in his study of the manuscript Troano: The author did not succeed in elucidating the system of the red and black numerals, nor the peculiar manner of number-writing followed in the Maya codices, but he gave useful comments on different points of the chronology; he pointed out that the four cardinal points are given in the codices by certain glyphs and he interpreted, in a wholly satisfactory way, those plates of the manuscript Troano and the Dresden codex that treat of the elaborate ceremonies described by Bishop Landa, the Maya set forth in the last five days of the year, in order to prevent the evil sorts that were supposed to come from the varying symbols of the years.

A decided advance was made by Professor Förstemann toward the solution of the problem of the Maya hieroglyphic writing. In the introduction to his edition of the manuscript of the Royal Library at Dresden (1880) and in his commentaries on the same, published in 1886, he established beyond any doubt :

1. That, besides the day signs of Landa, already noted by the other students, Landa's signs of the so-called months, too, are to be seen in the Dresden codex (Plate 24, 46-50, and others).

2. That the red numerals refer to the name of the day, and that the black numerals give the interval between the different days, denoted, as before said, by the red numerals.

3. That, besides the dots and straight lines, denoting units and the cipher five, the Maya had a sign for the naught and for the number twenty.

4. That the Maya counted units, twenties, three hundred and sixty, twenty times three hundred and sixty, twenty times twenty times three hundred and sixty, and so on up to the sixth degree.

5. That they wrote these numerals by superposition, expressing the multiplicative value of every number by its position in the cipher column, just as we express by juxtaposition all the multiplicative value of every numeral.

6. That, besides the period of 260 days, the Mexican Tonalamatl found everywhere in the Dresden codex and the other Mexican manuscripts, and besides the year of 365 days whose occurrence in the codices was shown by Professor Cyrus Thomas the Maya knew the apparent revolution of the planet Venus, admitted by them to have the length of 584 days.

7. That there exist in the Dresden codex different series of numerals, occurring at regular intervals and reaching very considerable amounts.

To these important statements the following new facts were added in the next year (1887):

8. That those numbers and number-columns of the Dresden codex that are found enclosed by a red loop, are to be subtracted from the amount of the neighboring number-column, the red loop acting as a minus sign.

9. That the high numbers, obtained by summing up the cipher columns and by subtracting the numerals enclosed within the red loop, are intended to express a certain day, that is to say, they give the interval existing between a certain day and another given day, the names of these days being generally written at the foot of the cipher columns.

10. That this other day that acts as a starting-point or the chronological zero, is, with a few exceptions, one and the same in

all these counts, viz.: 4 *ahau*, 8 *cumku*, that is to say, a day named with the number four and the day *ahau*, that at the same time is the eighth of the *uinal* or so-called month *cumku*.

These discoveries of Professor Förstemann's, though partly connected with other statements, whose correctness could not be wholly proved, and, in fact, have been abandoned since then by the author, were of the greatest importance. The whole framework of the codices was laid open by them. They retained a good deal of material interpretation, in showing the existence in the codices of the apparent revolution of Venus. And, last but not least, in the numeric system of the Dresden codex, as pointed out by Professor Förstemann, there was given the germ of all the future discoveries that have recently aroused so much interest, as this numeric system is, in fact, one and the same with the Maya chronological system.

At the same time as the result of Professor Förstemann's investigations were presented to the critical examination of students, Dr. Shellhas published his researches on the Mayan deities, showing that certain numbers of hieroglyphs in the Dresden codex occur regularly in connection with the figures of certain deities, hence are to be considered as the signs that, in the hieroglyphic writing, give the names of these deities.

It was only then that I entered into this kind of studies, my next task being to revise the discoveries made by my fellow-countrymen. I showed that the disposition of the glyphs in the codices is the following:

1. One or two glyphs giving the action in which the figure is represented.
2. The principal hieroglyph giving the name of the deity or the mythological being represented.
3. One to three glyphs expressing the qualities of the deity represented, its varying symbols and the like.

Relying upon Professor Cyrus Thomas' discovery that Plates 25-28 of the Dresden codex are to be explained by the *xma kaba kin* ceremonies, as described by Bishop Landa. I pointed out for certain deities and certain glyphs the names pertaining to them.

At the same time I explained the real concern of the glyphs of the four cardinal points, showing that there are connected with them four other glyphs, that must be considered as the hieroglyphs

of the colors—yellow, red, white, black. I may add here that in the arrangement of the figures and glyphs on Plates 25-28 of the Dresden codex, it seems that the writer of the codex committed an error. The lower thirds of Plates 26 and 28 must be exchanged. This emendation only explains the apparently irregular disposition of the glyphs of the cardinal points on these plates, and it shows that the lower thirds of these plates are devoted to the tutelar deity of the year next in order.

All the former writers had considered the Maya glyphs, the day signs, the so-called month signs, as being *sui generis*. I showed that there exists an intimate connection between the day-signs of the Mexicans and the Maya day signs.

Whereas the other writers had applied the Yucatec names of the years to the years and the dates of the Maya codices, I showed that from the dates as well of the Dresden codex as from those occurring on the monuments, it must be deduced that the writers of the codices, as well as the sculptors of the monuments, did not commence their years with the days *kan*, *muluc*, *ix*, *cauac*, as the Yucatecs did in Bishop Landa's time, but that they commenced them with the days *been c'tznab*, *akbal*, *lama*, corresponding to the Mexican bearers of the years: *acatl* "reed," *tecpatl* "flint," *calli* "house," *tochtli* "rabbit."

There has for a long time been a dispute about the length of the *katun*, the principal time-period used in the Mayan records. Bishop Landa seems to suggest that it must be reckoned at twenty years. But this does not conform with the fact that the sequence of the *katuns*—that is to say, of their commencing days—is the following: 13 *ahau*, 11 *ahau*, 9 *ahau*, 7 *ahau*, 5 *ahau*, 3 *ahau*, 1 *ahau*, 12 *ahau*, 10 *ahau*, 8 *ahau*, 6 *ahau*, 4 *ahau*, 2 *ahau*. In order to remove this difficulty some of the copyists of the books of the Chilam Balam gave a length of twenty-four years to the *katun*. This commutation that, in fact, is by no means in conformity with the ancient statements, has been adopted by the Yucatec antiquarian Pio Perez, and after him by Prof. Cyrus Thomas and by Prof. Förstemann. I showed, in a paper published in 1891, that the real length of the *katun* was twenty times three hundred and sixty days, the time-period adopted in the numeric or else chronological system, of the Dresden codex.

This was the state of things in 1891. Though a good many im-


portant discoveries had been made, we had come in a way to a dead point. There was always an open field for every kind of hypothesis in the diligent and detailed study of the manuscripts, but it seemed impossible to reach conclusions of a certain well established probability beyond the very limited number of those we had already obtained. It was then that Alfred P. Maudslay gave a new impulse to the study of the Maya hieroglyphic writing by the publication of his "Archaeology" in the great Encyclopedia called "Biologia Centrali Americana." One cannot overestimate the importance of this work. The material at hand for purposes of investigation and comparison was here increased in a very considerable degree, and presented to the students in a form ready for working. In fact, I do not know of any other publication on Archaeological subjects of a similar perfection. Though, generally, Maudslay restrained himself from drawing conclusions, he intimated to us a most decided step, in putting together on Plate 31 of his first volume the Initial Series of the Copan Stelae. The germ of all further discoveries, Förstemann's, Goodman's and my own was enclosed in this table.

In the year 1891, in a paper presented to the Berlin Anthropological Society, Prof Förstemann had printed out that the sign




which I had shown must be read *tun*, is to be consid-

ered as having the value of three hundred and sixty (360), and

that another sign, partly composed of the same elements, 

must be supposed as equivalent to the number seven thousand and two hundred (7200), that is to say, must have the phonetic value *katun* (as I afterwards pointed out); finally, that

the day-sign *chuen*  in certain places of the Dresden

codex seemed to express the number twenty (20), that is to say to have the phonetic value *uinal*. Certainly all this was, originally, not the result of investigation, but of a kind of intuition. But, in the same paper, Prof. Förstemann addressed a crucial test in applying these statements to the hieroglyphic stelae of Plates 61 and 69 of the Dresden codex, where we see, indeed, a great

number given by enumerating the numbers of *katuns*, *tuns*, *uinals* and *kins*, just in the same way as the great numbers of Copan Stelae and of the other monuments are given by the numbers of *kins*, *uinals*, *tuns*, *katuns* and twenties of *katuns*, contained in them.

Prepared as we were by these statements and aware of the fact that the numeric system of the Dresden codex ascended by units, or *kins*, twenties, or *uinals*, three hundred and sixty, or *tuns*, twenty times three hundred and sixty, or *katuns*, and twenty times twenty times three hundred and sixty, or cycles, a glance at Mandslay's list of the initial series was sufficient to convince us that these initial series could not be other things than great numbers, composed of *kins*, *tuns*, *uinals*, *katuns* and twenties of *katuns*. For it was easy to see that in these initial series there were embodied the same glyphs, and in the same order, we had recognized to represent the *kins*, *tuns*, *uinals* and *katuns*. A crucial test was at hand for the rightness of our supposition. In the Dresden codex the great numbers expressed the distance of a given date from another date, being the same throughout the whole Dresden codex, the day 4 *ahau*, 8 *cumku*, that, in fact, acts as a zero, or starting point, for all numerical or chronological computation. Now, the initial series—that, according to our supposition represented great numbers too—were followed, in nearly all the cases, by a date. It was evident that the initial series must give the distance of this date from the chronological zero, that is to say, from the day 4 *ahau*, 8 *cumku*. In fact, in a paper published 1894 (for Entzifferung der Maya Handschriften IV), Prof. Förstemann calculated quite correctly, from this point of view, the initial series of different Copan monuments. In lectures on Maya hieroglyphic writing, held in the Berlin Ethnographical Museum, I had expressed the same theory and I gave a short explanation of it, accompanied by the calculation of the initial series of the Stela B of Copan, to the meeting of the International Congress of Americanists, held in the year 1895 in Mexico City. You will understand that we did not expect this calendar to be challenged, and that we agree with Mr. F. T. Goodman that it is as infallible as the multiplication table. Only we had recognized this calendar and its infallibility some time before Mr. Goodman worked out his book on the "Archaic Maya Inscriptions."

I come now to Mr. Goodman's discoveries and the well known book that forms the eighth part of Mr. Maudslay's *Archaeologia*, embodied in the great *Encyclopaedia* called "*Biologia Centrali Americana*." I freely confess that this book, so severely criticized by the late Prof. Brinton, represents another decided step in our knowledge of the Maya hieroglyphic writing, though I am sure that it embodies numerous erroneous statements and imaginary results, and though the author deliberately affects to neglect the recognition of the merits and the discoveries of former writers. The special merits of Mr. Goodman's books are the following:

(1) That he presented in an easy and intelligible form to English readers what he called "the chronological calendar,"—the chronological system of the Mayas, that, as I said before, is one and the same with the numeric system of the Dresden Codex, and was recognized by Prof. Förstemann and myself as giving the explanation of the initial series of the Copan Stelae.

(2) That he gave a list of the principal forms of the glyphs that represent the different members of this chronological system acting as multiplicandi in the initial series of the monuments.

(3) That he recognized the numeric value of certain glyphs called by him "Face Numerals," acting as multipliers in the initial series of the monuments—though it is evident that in his list the correct forms are mixed with erroneous and wholly arbitrary assertions.

(4) That he showed that the numeric value of these "face numerals" or multipliers is augmented by ten, by adding a skeleton jaw and skeleton teeth—the abbreviation of a dead man's skull—to the face in question.

(5) That he gave a list of the different forms of the so-called month-symbols occurring on the monuments.

(6) That he discovered the *x'ma-kaba-kin* sign.

(7) That, perhaps, he discovered a sign for the period of fifty-two years, called by him "a calendar round."

The other statements concerning the numeric value of the day-signs and the so-called month-symbols, the signs denoting beginning, the directive signs, etc., given, like all others, without proof, need confirmation.

The author's theory that the multipliers of the initial series are to be considered as ordinal numbers, and his identification of

the zero-glyph with the number twenty is evidently an erroneous one, since it implies, *f. i.*, that the sign taken by him as denoting twenty, when combined with the glyph of the *tun* or period of 360 days, must be read eighteen.

The theory that the beginning day of the *uinal*, or so-called Maya month, was counted twenty instead of one, and the kindred notions concerning the beginning days of years and *katuns* are based on an artificial construction and do not conform to a natural explanation of things.

Goodman's supposition of the Mayas having counted thirteen cycles, making out a grand era, and of the Maya reckoning being based on counting seventy-three of these supposed grand eras, is a wholly arbitrary one, and by no means supported by facts.

When working out his book, Goodman had the opportunity of being allowed to make use of Mr. Maudslay's plaster casts, photographs and drawings. I had to await the publication of the same, and it was only after the coming out of Mr. Maudslay's first sheet on the Quiriguá monuments that I felt I had sufficient material at hand to continue my studies. I made them independently of Mr. Goodman's book, whose statements, given without proof, did not seem to me, at that time, reliable. I presented the result of my investigations to the Berlin Anthropological Society in the winter of 1899-1900. I showed that the glyphs taken by Mr. Goodman as denoting twenty are to be read zero, and that the starting point, the chronological zero, for the computation of the initial series of all the monuments, is the same as that of the Dresden codex discovered by Prof. Förstemann, the day 4 *ahau*, 8 *cumku*. By a careful study of the initial series of the different monuments I succeeded in constructing another and independent list of the hieroglyphs of the numerals one to nineteen, embracing those caligraphic forms that appear, not as simple heads or faces but as entire figures. I was anxious to show the way by which I had come to these conclusions, presenting at the same time the proofs I relied upon. Finally, in a third paper, treating of the glyphs of the wooden lintels brought by Dr. Bernouilli from Tikal, I showed that a glyph that had been formerly considered by me, and also by Mr. Goodman, as meaning twenty, is to be interpreted as the sign for "the eve."

Mr. Goodman's discoveries and his views on the Archaic Maya calendar have been taken up by Mr. Maudslay himself, and in this country by Mr. Bowditch and Mr. Gordon. The latter particularly devoted himself to the interpretation of the material that has been brought out by the excavations made by the Peabody Museum in Copan, Honduras. The ample material contained in the photographs brought together by my countryman, Teobert Maler, has been studied in a very successful way by Mr. Bowditch, whereas Prof. Cyrus Thomas is busily engaged in revising and interpreting the different statements contained in Mr. Goodman's book.

No doubt new and important channels in the investigation of the Maya hieroglyphic writing have been opened by the publications and the discoveries of the last few years. Nevertheless, it seems to me that there are certain restrictions limiting the progress of our knowledge which we have not yet succeeded in overcoming. All explanation of Maya hieroglyphs stands on firm grounds, inasmuch as we can confirm the interpretation by the calcul. Could we suppose, as Mr. Goodman does, that all figures and all glyphs and every detail of figures and glyphs are nothing else than numbers, that the whole bulk of the codices and the inscriptions is confined to arithmetic problems, we might hope to get some time to a perfect understanding. But I doubt if any one will be found agreeing with Mr. Goodman in this view. A material content of the codices and the inscriptions, a substantial meaning must be supposed, and there is little hope of being able to get at this meaning by merely comparing the glyphs. But we must arouse the question, if there does not exist anywhere remains of material tradition that would enable us to reach to material results. And, I think, such remains of material tradition exists. It is the tradition contained in the books of the Chilam Balam, that were written in the Maya tongue in Spanish time. In these books we have a description of the thirteen *katuns*, with the gods presiding over them, that seems to agree, in a way with some pages of the Codex Perez. Could we but understand the meaning of these chapters we might very likely come to some understanding of the adduced pages of the Codex Perez, and in all probability, to some understanding, too, of the meaning of the Katunic Stelae. But without having at hand a dictionary of

the speech of the ancient times, there is no possibility of a successful study of the content of those ancient books. Hence, it is most desirable that the publication of the *Diccionario Motul*, now in preparation by the Smithsonian Institution, should be hastened in every possible way.

On Ancient Mexican Religious Poetry.

BY

EDUARD SELER.

The students of Mexican language, as well as those of other Indian dialects, have to complain of the fact that we are only acquainted with the last state of development which the speech of the tribe in question underwent. In Europe and with other literary people we are, in most cases, able to trace back the history of a spoken language over a very considerable extent of time—for the Egyptian language over more than four thousand years. You will easily understand how great an advantage is afforded thereby to any one who tries to comprehend the structure of the language and the laws by which it is governed.

The Mexican language, as it is spoken now, and as it was spoken at the time of the conquest, is a well developed and harmonious idiom. But there is no doubt that, like many others, it underwent great changes. It would be very interesting if we could get hold of some of these changes, that we might come to a better understanding of the existing speech and of the written language contained in the great bulk of manuscripts and books compiled in the time immediately after the conquest. A slight opportunity for this is given in the study of the religious chants that are inserted in the original Aztec manuscript of the History of Father Bernardino de Sahagun, for it is evident that, besides the changes embodied by the poetical form of speech, there is to be found in these chants a lot of archaic words and archaic forms. And this is not the least point of importance that must be attributed to them.

The chapter in question of the original manuscript of Sahagun's history bears the heading in the infirm, trembling handwriting of Father Sahagun:—"De los Cantares que dezia a horra de los dioses en los templos y fuera dellos." It contains twenty different songs directed to as many different deities, known as the principal gods of the ancient inhabitants of Mexico city and the neighboring tribes. A considerable amount of information as to the true character and the origin of these gods may be ob-

tained by the careful study of these chants, for there is no doubt that these were the very songs sung at the religious festivals in the temples and with the ceremonial dances held in honor of the gods in the courtyard of the great temple and in other places.

These chants have been edited by the late Prof. Brinton, as the eighth volume of his Library of Aboriginal American Literature, under the title "Rigveda Americanus." I regret to say that he was not successful in trying to accompany this edition by an English paraphrase. The wording of these songs is extremely obscure, to the degree that Father Sahagun himself felt compelled to ask his Indian friends for information as to the true meaning of them, and he added the information they gave him, as a gloss to the text of the songs. Brinton's knowledge of the language did by no means enable him to succeed in such a hard task. I will not enter into details, but for any one acquainted with the Mexican tongue it is evident that Brinton's rendering in many cases strays far away from the import of the sentence in question. I do not pretend myself to understand all these songs. There are some among them which even the Indians of Father Sahagun's time did not know how to render. But I have not hesitated to undertake, at different times, this work and to make every endeavor to come to an understanding of these texts. In the second volume of my "Collected Essays on American Linguistics and American Archaeology" I have printed the complete text and a German version of these songs, accompanied by philological and material elucidations. In order to give an idea of the very content and of the trend of thought in these songs I shall here translate the fifteenth of them, the song directed to the god *Xipe*.

Xipe Totec, "our lord, the flayed" is a well known deity, the terrible god of the festival of slaying men, the god who appears himself clothed in the flayed skin of a human victim. In a study on this god, published in my paper, the eighteen religious festivals of the Mexican year (*Veröffentlichungen aus dem Königl. Museum für Völkerkunde*, Vol. VI, Berlin, 1899), I showed that *Xipe* is to be understood as an agricultural deity, that tearing off the skin was considered symbolical of the renewing of the earth in springtime, of its assuming a new covering, a new skin, that is to say, of being covered with the green of vegetation. The

words of the song directed to this god are quite in conformity with this conception. The song goes on as follows:

1. *Yoalli tlavana yztleican timonenequia xiyaqui millatia teucitllaquemill xicmoquentiquetlosia.*

2. *Noteua chalchimamatlaco apamay temoaya ay quetzallaueuettl.*

Ay quetzae xivicoatl.

Nechiyaiquinocauhquell oviya.

3. *Maniyavia, niauia poliviz niyoatzin achal chiuhlla noyollo a teucuitlatl nocoyaitaz.*

Noyol cevizqui tlacatl achloquell tlaquavaya ollacatqui yaullatoaquell oviya.

4. *Noteua ce intlaco xayailiviz-sonoa yyoatzin motepeyocpa mitz-valitta.*

Moteua noyolcevizquin tlacatl achloquell tlaquavaya ollacatqui yau tlatoaquell oviya.

It is clear that sowing and harvesting is the real content of this song. The commentator paraphrases the meaning of the last strophe by the following sentences:

Ynoteuh—My God.

Cequi tlallacotyan in mochiva in itonacayuh—Some of the food ripens by laboring on the field.

Auh in tlein tlallacotyan achto mochiva—And what first ripens by laboring on the field.

Muchi tlacatl achto mitzvalmaca—Everybody offers it to thee.

Auh in iquac yeomuchimoc—And when all had been ripened.

"The nightly drinker, why art thou angry? put on thy disguising, the golden garment, clothe thyself in it!"

—This sentence is interpreted by the commentator:—"Might it rain, might the water come!"

"My God, thy emerald-water came, the water torrents descended oh, the old Taxodium-tree is changed into green plumage" (interpreted by the commentator:—"It has become green, the summer came").

Oh, the fiery snake became green plumage, (the fiery snake) left me (—interpreted by the commentator:—"I got rid of starvation").

May I go to die, I, the green corn-plant, my heart is like an emerald, I hope to see there gold (*i. e.*, I hope to see it changed to gold).

I shall be consoled, when first it hardened (ripened), (when) the war-captain is born.

My God, if there is abundant the corn-plant then is looking hither to thee, to thy mountain.

Thy worshiper I shall be consoled, when first it hardened (ripened), (when) the war-captain is born.

Occpa no mocki tlacatl mitzvalmaca yu motonacayuh—Everybody again offers thy food to thee.

That is the song of the terrible god of the festival of flaying men, of the god of the *Sacrificio gladiatorio*. There cannot be imagined a trend of thought more harmless, more pacific than that exhibited by this song. It affords a strong argument that the religious sentiment and the religious phantasy of these people ought not to be judged by the bloody ceremonies of a highly developed superstitious cult alone, that there are lying at the bottom sources of a primitive pure feeling with which we too might easily conform.

Data about a New Kind of Hieroglyphical Writing in Mexico.

BY

NICOLAS LEON.

Ladies and Gentlemen: 1. The antiquity of the several races that populated actual Mexico is as poor in pre-hispanic documents as it is rich in post-Cortesian historical texts. It is owing to this that their primitive history remains enveloped in darkness and shadows; and it is also owing to this that we are lacking competent interpreters who may decipher their imperfect hieroglyphs, and who, with intelligence and sagacity, coupled with a wise critique, may arrive at a perfect accord and concordance among the conflicting texts of their primitive historians.

2. The nemonics of those peoples have reached us through the pictographic codices, through the manuscript narratives of the Conquerors, the Monks, and the Indians taught by the latter, and through the inscriptions which, carved either on sumptuous buildings, or on inaccessible rocks, are to be found scattered all over the Mexican territory.

3. The Nahuas, the Maya-Quichés, the Mixteco-Tzapotecans, and, in a lesser scale, the Tarascans, and others, are the possessors of the pictographic codices.

4. The petroglyphs, scattered in considerable numbers, especially over the Northern and Northeastern regions of Mexico, have been ascribed to the Otomies and cognate races.

5. About the writings left by the Conquerors, by the Monks, and by the educated Indians, I shall only say that the Conquerors have left but few, although very valuable chronicles; that the Monks wrote voluminous compilations in which some more critique and order are to be desired; and that the Indians followed the example set them by the monks, showing some impartiality now and then, although, as a general rule, their love for their native coun-

try and their eagerness for flattery led their pens to write exaggerations and falsehoods totally inadmissible. I.

6. Diligent and wise investigators, of all nations, have devoted themselves to deciphering the hieroglyphical pictures, and, after a constant and arduous labor, it is most painful to state that the results attained have been scanty, especially with regard to the Maya codices and to the Quiché inscriptions. I. Better results have been attained with the pictographs of Nahua filiation. The Mixteco-Tzapotecans have scarcely been approached. The Tarascans and their similars, in a very reduced number, and in most primitive hieroglyphs—as is the case with the Kieriologic—have been easily interpreted.

7. Nobody, that I know, has ever devoted himself to the interpretation of Mexican petroglyphs; and it is to be desired that a complete collection of them should be made, by means of photographic pictures and by moulding them, in order to proceed to their close study.

8. Since so many cabinet investigations have produced but such meagre results, it would not be amiss to develop other activities on so great a number of unexplored regions and monuments as are to be found in Mexico. By so doing, it may perhaps be the good fortune of investigators to find more than one new datum which shall furnish an explanation of, or shall help to, a perfect understanding of the codices.

9. The explorations of our esteemed colleague, Mr. M. H. Saville, in the Oaxaca Valley, are the best evidence in support of the truth of the foregoing statement.

10. Mexican archaeology has very little to expect at present or in future from cabinet savants. What it needs is a certain number of enlightened, assiduous, and diligent explorers, commensurate with its riches.

We may expect to hear from them transcendental revelations, which, in more than one instance, shall shake the old structure of Mexican archaeology, on which little, very little ethnography has been exploited. Linguistics has been a pretext for fancy discoursing, and folk-lore and anthropometry have shone by their absence.

11. The foregoing remarks are something more than a mere criticism—they purport to attain a higher practical aim, and this

aim is to summon amateurs and masters to undertake the study, *in situ*, of our antiquities, of the habits and customs of our present Indians, and to a deliberate and conscientious examination of their physical conformation; that is to say, to a thorough study of ethno-anthropometry in all its wide scope.

12. By laboring in this way—although in a very reduced scale, indeed—after several years of observation, I have succeeded in collecting the few, but very interesting data, relating to *a new kind of mixed hieroglyphical writing*, a subject-matter which under *three sections*, I have the honor to submit to this Honorable Congress.

13. Far from me the pretension of developing a theory, and still less the idea of wishing to explain that which such a writing may commemorate. The present study only embraces a statement of: (a) Facts, (b) ancient texts, and (c) remarks relating to both facts and texts.

(a) FACTS.

14. Among the most interesting objects that constitute the riches kept within the Oaxaca Museum, there exists a clay statuette which originally must have been painted in red. It is thirty-eight centimeters high, and shows at once, as most remarkable features, the physiognomic lines of its face, its head-gear, the shape of its eyes, its dental mutilations, and above all, the two hieroglyphical *cartouches* carved in the head-gear and the breast, of a genuine calculiform style, and bearing the numerals in the usual form of such inscriptions. It was found in the surrounding lands of the Mixteca village of Cuilapan. II.

15. In the rich collection of Dr. Fernando Sologuren, a conspicuous place is occupied by an onyx vase, brought from the village of Tlalixtac. Its outside shows two carved hieroglyphical targets of identical style with those of the foregoing quoted figure.

16. A beautiful tripodic onyx vase, from the Mixteca village of San Pedro Añani, which I keep in my possession, must have been originally painted in red. It shows, carved, in its outside, three hieroglyphical targets encased after the Maya style, their composition being analogous.

17. Among the most remarkable discoveries made in the Oaxaca valley, during the winter of 1897-98, by our colleague, Mr. M. H.

Saville, a preferent place must be awarded to the monolithic threshold (lintel)—actually destroyed—of a crypt that he explored. The outside face shows a remarkable hieroglyphical inscription, after the Maya-Quiché style. III.

18. In Señor Pablo Souvervielle's collection, in Oaxaca, there exist two small clay vases, each showing a hieroglyphical target, after the Maya style. Both vases come from Teposcolula.

19. On a fragment of a clay vase, proceeding from the above-mentioned village, there is a painted sign, and it is our opinion that said sign is a hieroglyphic and not a mere ornament. We are inclined to detect in that sign some elements of the Maya writing.

20. On an idol, from Santa Ines Yasechi, I have found a hieroglyphic which contains Maya elements and composition.

21. A jade medallion from the Mixteca country, and its details and ensemble bring to our mind some of the Copan figures.

22. Another medallion of jade, from the same origin as the preceding one, is the property—as the other—of the Oaxaca Museum.

23. On a large tombstone found in the Mixteca country are clearly perceptible some carved figures, which, without the shadow of a doubt, are of the genuine Maya style (Oaxaca Museum).

24. Another tombstone, from San Lazaro Zautla, of similar class as the one from the Mixteca, has a relief or embossment clearly showing the style and elements of the aforesaid-mentioned writing, although in this specimen they appear considerably modified.

25. Having the same origin, being destined to the same purpose, and finding itself in a similar case as the preceding one, is a specimen preserved in the Oaxaca Museum.

26. Captain Dupaix discovered, in 1806, at the foot of one of the pyramidal mounds of "Monte Alban," in Oaxaca, a coating consisting in large stones with carved figures, some of which show an emblem, or hieroglyphical target.

27. Hieroglyph from a clay figure found in "Monte Alban."

28. There exists, in the Solguren collection from "Monte Alban" a clay vase, painted in black, in the form of a tiger's claw, with a carved hieroglyphical target. Its composition is almost similar to one of the figures on the onyx vase.

29. At the base of one of the pyramidal monuments of "Monte Alban" there is a large monolithic slab, covered with hieroglyphical inscriptions of a well-characterized Maya style.

30. Two other slabs, with inscriptions, coming from the same spot, fully confirm the above opinion.

31. Within an earthen pot, and buried under the platform of one of the pyramids of "Monte Alban," together with some other objects was found a jade (?) medallion, in the shape of a heart, and showing on its obverse a human figure, and on its reverse, a well-known Maya sign.

32. From the same "Monte Alban" was dug out a beautiful medallion. Its workmanship and its style lead us to believe that it belongs to a more cultured period. IV.

33. The differences, between the writing on the objects mentioned and the one on the petroglyphs, the Kierologic, the Maya, the Zapotecan, and the Nahuatl, are so clear and manifest, that we thought it incredible that our archaeologists (who have known some of these monuments, as well as others about which mention shall be made further on) might not have had their attention called to said differences, and should have disregarded them, mixing them up.

I wanted to become convinced of the fact, and, on perusing their writings, have found out—with no little satisfaction—that such had not been the case, and that they neither disregarded those differences nor made a medley of them.

The following texts furnish us evidence of that.

(b) TEXTS.

34. In the narrative of Captain Dupaix's journeys, second expedition, Plate 21, No. 64 (Atlas), appears the drawing of a square slab covered with hieroglyphical signs, and the descriptive text reads thus:

"No. 64. Finally, on reaching the summit of this celebrated hill ("Monte Alban"), on the slope of an artificial mound, there is a square slab, of granite, having two "varas" in length, and a little less than one "vara" and half in breadth, and forming a perfect long square. Its depth is of one-half a "vara", and is sculptured, showing some hieroglyphical characters, carved in *basso-relievo*. The edges are carved likewise, showing human figures alternating with fantastical ones. This manner of *painting thoughts, here varies in its aspect*, and shows us *another disposi-*

tion, or order of figures, symbolic characters *different from those of the Mexicans*, which goes to prove that *this writing is not the same.*"

35. "Near Zaachila"—writes Señor Orozco y Berra—"there are a great number of tumuli, containing In our opinion, the chief discovery therein made consists in a commemoration slab, of a very hard and heavy stone, three-fourths of a 'vara' long, and one-third of a 'vara' wide, and about three inches thick. Its center is occupied by a kind of altar formed by a bar supporting one figure in straight lines, showing some drawings which remind us of the windows in the shape of the Palenque Cross. In the upper part, there is a symbol trying to imitate the 'ce acatl' of the chronological connotations of the Mexicans. On each side of the altar are two personages; all four of them have their faces turned up to the central point; they are naked, and are sitting cross-legged after the Oriental fashion. Their head-gear is different from that worn by the Anahuac nations, and it is to be remarked that the first figure, on the left-hand side, has a kind of turban ending in the leaves of some plant, although different perhaps, having some relation with the one on the altar. The beard and moustache of that personage reveal a habit or custom totally different from that of the American nations. The bird perched on the head of the second figure looks more like a dove than the humming-bird worshiped by the Mexicans.

"The second individual, on the right-hand side, holds in his hand an ear, which might be the ear of corn, or the terminal 'miahuatl' of the plant." It would be absurd to launch into fanciful speculations tending to decipher this slab. We nevertheless believe that, *absolutely, its inscription is neither Tzapotecan nor Mexican.* It belongs to a totally different civilization, having some similarities with that of the Oriental peoples. There exist, at the parochial church of the same village of Zaachila, three slabs with *basso-relievos*. On the other two, we have found the same kind of writing as on those of "Monte Alban."

36. The same writer, referring to Xochicalco, and to the inscriptions on the walls of that monument, says: "One can see at once the intent of a vulgar or mythic writing, *without any point of touch with the graphic writings of historic peoples*; if there exists any relation, it exists with the sculptures of "Monte Alban" and of Zaachila, with which it forms a particular type."

37. About the slab described and sketched by Dupaix he wrote: "The commemorative slab existing there, carved in *basso-relievo*, seemingly with graphic signs, is of a kind of writing *completely special*—the form, the design, the distribution, are absolutely new to us, and we only find in it some reference to the Xochicalco sculptures." Further on, he adds: "These works and a few others, the mention of which we omit, if we are not mistaken, give evidence of a people different from the Tzapotecans, and from the Mixtecans; of a people far advanced in civilization, having notions on astronomy, and possessing a primitive writing, unknown at present."

38. Noebel, the traveler, asserts that "there is some similarity between the Xochicalco figures and the Palenque stuccos."

39. Bancroft expresses an identical opinion, having found that resemblance with the Maya sculptures.

40. Señor Chavero, the learned savant, affirms—after having exhausted prolix considerations—"that the Xochicalco sculptures, judging from their construction, from the position and the costumes of the sculptured figures, and from their different symbols and hieroglyphs, are undoubtedly relationed with those of Zaachila, Palenque, and Copan."

41. An irrefutable proof of the accuracy of those opinions is found on examination of the splendid Iconography of Xochicalco, published by our enlightened and diligent colleague, Dr. Antonio Peñafiel, in which have been copied, with the utmost care, all the ornamental *relievos* of the monument.

42. By the quoted texts, and others which for brevity sake I have omitted, it is shown that the writers who have become acquainted with some of the mentioned archaeological monuments, have thought that the writing on them was *neither Nahuatl, Tzapotecan or Maya*, although it has a style very similar to the latter. Hence, duly appreciating the high value of (a) Facts, and (b) Texts, I have been led to the following considerations:

(c) CONSIDERATIONS.

43. The writing which, in spite of deriving itself from other sources, we may call "genuine Tzapotecan", is well known at present. This knowledge is due to the science and assiduity of our colleague, the far-famed Dr. E. Seler, who, in his masterly

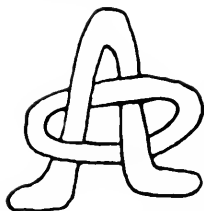
work on the "Mural Paintings of Mitla", has made the analysis and the explanation of said writing.

44. Nobody, up to date, as far as I know, has studied the Mixtecan writing and civilization, which it has been wrongly tried to have them absorbed by the Tzapotecans, and, to a certain degree, to have them subordinated to the latter, endowing it with a higher standard of culture.

45. In Mixtecan hieroglyphs we possess the richest collection of American codices known to this day. Their number and denomination is as follows, *viz*:

(1) The Vienna Codex; (2) the Seden Codex; (3) the Bodleyan Codex; (4) the Sanchez Solis Codex; (5) the Columbian or Dorenberg Codex; (6) the Porfirio Diaz Codex; (7) the Dehesa Codex; (8) the Saussure Codex; (9) the Fernandez Leal Codex; (10) the Codex, or Cloth of Zacatepec; (12) the Codex, or Cloth of Amoltepec; (13) the Nuttall Codex—all of which have been published. Some more, unpublished, exist in several public institutions, such as (14) the Santa Catarina Texupan Codex; (15) the Yancuitlan Codex—or in the possession of private parties (Lic. F. Belmar, of Oaxaca, being the owner of five codices).

46. All these codices, besides a peculiar pictorial style which differentiates itself from the Nahua, offer the remarkable singularity of their chronographic connotation.



That singularity is the profuse repetition of a sign simulated by the Latin letter "A", in script, closely united to an "O" of the same style. On this particular point, the Cloth, or Codex of Amoltepec, among the above-mentioned ones, becomes remarkable.

47. It is true that this sign is used in a codex of undoubted Nahua filiation—the Borgian Codex—and its Plates 11, 12, 66 and 65, of the Kingsborough edition; but an isolated case is no proof to the contrary, or, at the utmost, it would only mean that the Nahuas appropriated the sign to themselves. It may also have happened that this codex, like the "Telleriano Remensis," should have been executed on the region bordering with the Mixtecan territory. VI.

The unpublished codex "of the Seignory of Quetzala" finds itself in just the same predicament. This codex is in the posses-

sion of Señor Chavero, and shows, in the most persuasive manner, its Nahua make.

48. That sign, in my opinion, has a Maya origin, for I find it roughly outlined, so to say, in their component elements, or two figures, the product of that civilization, having it engraved on them.

49. Many of the figures of the "Codex Nuttall", which are clearly seen to be navigating in small skiffs, appear to me as a modification of the one represented in the "Dresden Codex" which, according to the interpreters, symbolizes "The God of Time, carrying the year of Death."

50. The Nahua writing also presents, among the elements of its hieroglyphs, some of a Maya origin. In my opinion, that has been proven both by Mr. F. Parry, in his work "Sacred Maya Stone of Mexico," and by my deceased friend Mr. Daniel G. Brinton, when he punctualized that a "variorum" of the Maya sign "Yax" is illustrated on Plate 12 of the "Tlaxcala Cloth," second escutcheon of the upper series, and third escutcheon of the lower one, from right to left.

The codices "Laud," "Fejervary," and "Bologna," which have numerals after the Maya style, are also as many proofs thereto.

51. The well-known Tenanco monolith (in the State of Mexico) shows a Nahua writing in Maya style.

52. The foregoing (a) Facts, (b) Texts, and (c) Considerations, submitted to your appreciation and talents, wise and most respectable colleagues, have led me to come to the following

CONCLUSION.

There exists a hieroglyphical mixed writing, seemingly developed all over the Mixtecan region, in the State of Oaxaca, in which are found the *elements* and the *form* of the Maya, and possessing signs of the Nahua writing. VII.

My earnest wish is that the explorations, undertaken in the territory of the State of Oaxaca, be continued, in order that, through their results, sure and accurate opinions may be formed, since the texts proceeding from the "Nuñuma", the sole known to this day, when they can be approached by us, tell us little or nothing (Sahagun, Burgoa), and those of an Indian origin frustrate, with their impenetrability and silence, our efforts. VIII.

NOTES.

(1) On the 11th day of March, 1882, Señor Alfonso Pinart, writing from Veragua, said: "At Guadalajara (Mexico) I have discovered the pearl of my collections. I possess the Rosetta stone of the Maya inscriptions. This gem is a book in a rather dilapidated condition as regards its preservation, containing 372 double leaflets, on metal paper, with the translation, into the Maya language, of the "*Catecismo grande y de la doctrina*", in Maya characters. It bears no date whatever, and the beginning and the end of it are lacking. The characters appear to have been written by the firm hand of a person evidently conversant with that kind of work. Under each *sign* is found its *transliteration* following its translation. I have been able, with the help of this document, to easily read, on the photograph thereof, one of the texts of the Palenque Cross."

"But there is something more: the Maya language of these inscriptions has an archaic form, and the Dictionary of Pio Perez is almost useless for their study. It has been my good fortune—on my last visit to Mexico City—to acquire the Yucatecan Dictionary of Villalpando, printed in that City in the year 1577, its language being quite different from that of Pio Perez's" (Rev. d'Eth, Vol. 1st, pag. 101-62, Paris, 1882).

What has become of the American Champolion, and of the key to it?

(11) In the year 1896, I published—in the "Memoirs of the Scientific Association *Antonio Alzate*", Vol. X,—under the heading of "A New Hieroglyphical Maya Document" a study relative to this interesting figure. I found, then, similarities, which I can see, even now, between the face of said figure and the faces of some of the Copan figures. I have, recently, had the opportunity of studying the physical traits of the Mixtecan Indians "*pur sang*", and I have been astonished to find such a degree of resemblance, in the shape and the direction of their eyes, with those of the statuette referred to. Their nose, as a general rule, is not so crooked as the one of this figure, but all of them show a tendency towards this type. Let the eyes of the idol and of the Mixtecan Indian woman be studied, and it will be seen that they are both of the *Mongol* type—the Indian woman's eyes in a medium degree (No. 2 of Topinard's) with a straight and "*mesorhinian*" nose.

Herr Förstemann gave his acquiescence to the opinions set forth

in the above-mentioned study, and was kind enough to communicate to me his high and authorized opinion about the hieroglyphical targets, in the following words: "...The hieroglyphs on the breast indicate the 13th day of the month of Pax, and those on the head the 13th day of Chiccan, both representing together the dates 13 Chiccan and 13 Pax (commonly written XIII, 2:13, 15) corresponding to one year I Yx., which is 1517 or 1413.

(III) In No. 32 of the "*Semanario Ilustrado*", Vol. I, Mexico, 1901, and with reference to the inscription on this lintel, I published the following:

"At once, its alignment in "Katunes" or series, is remarkable, it being the feature of the Maya and Palenquean writings, and having double size of the initial "glyph."

On examining isolatedly the figurative elements of each "katun", which, for a better intelligence, we have numbered, we see that the upper sign, to the reader's right, has a larger size than all the rest of them, bringing to our mind the one of the "*Cortesian Codex*" which forms the eye of a deity therein represented, it being also very similar to the sign for the day "Ik." Immediately below it, are clearly to be seen the Maya numerals, two lines equal to 10, and two points, equal to 2, making together a total of 12. In the same direction, and in the lower part, is easily seen the head of a deer (Ceh). On the left of this same target, there are two figures of human heads—one above the other—the upper one looks like a sacred mask, and the lower one, in profile, is the representation of a "Bacab" or "Chac". This same human figure is identically repeated on the remaining thirteen columns, and always on the same place. In our opinion, the signs on the upper part of the "Katunes" Nos. 2, 4, 5, 6, 7, 8, 10, 12 and 14, assume a genuine Maya representation. Those, on the same place, of "Katunes" Nos. 2, 4 and 6, are similar, and they do not seem to represent the sign of Pax; No. 8 has the appearance of the sign "Ollin"; and No. 11 is, without doubt, "Acatl". No. 13 may be, perhaps, "Ozomatli"—these last three being absolutely Nahuatl signs. The middle internal part of the whole series shows points and lines, which, combined with the contours of the lower figures, chiefly in Nos. 1, 2, 3, 4 and 5, form human faces, analogous to those of the Maya "Ahau".

(IV) The hieroglyphical slabs, of "Monte Alban," which have of late been represented as a new discovery, have been known for a

long time. In our National Museum exists, in manuscript, a work, by Don Juan B. Carriedo, the title of which is: "Descripción de una Fortaleza Zapoteca y una Explicación de las doce laminas de que se compone el Atlas, y son las figuras, planos, cerros, etc. de aquella fortaleza." Por Don Juan Bautista Carriedo Oajaca, 1840, 4to 8 hojas x la port." (A description of a Zapotecan fortress and an explanation of the twelve plates forming the Atlas, and are the figures, plains, hills, etc. of that fortress. By Don Juan Bautista Carriedo. Oaxaca, 4 to 8 leaves, plus the title-page).

The Atlas, with nine two-tint plates, has a title-page reading thus: "Atlas de los planos y vistas de la fortaleza Zapoteca situada en las cumbres del Monte Alban, por Don Juan Bautista Carriedo—1833 4to mayor apaisado—" (Atlas of the plains and sights of the Zapotecan fortress, situated on the summit of Monte Alban, by Don Juan Bautista Carriedo—1833—Large 4to-cross-page printed).

In a bundle of old papers, I have found a few manuscript sheets, containing the following Notice of the "Monte Alban" antiquities:

"On the Southern part of the City of Oaxaca, lies the hill called 'Montalvan' (sic), where as tradition goes, were buried its ancient kings, in an extensive table-land or plain, which stretches on its surface, and where there are some big artificial mounds, or heaps of earth, which are the tumuli, or mausoleums. On this spot, and when Don Juan Antonio Corsi was the Mayor of the City, one of his sons, named Don Francisco Corsi, at present an Auditor in the Court of Revision of this New Spain, told me that his father being desirous of investigating and reconnoitring these old monuments, ordered one of these heaps, or mounds, to be dug, and therein were found some small idols, the flooring being of mortar. There was also found therein a tombstone having several lines of unknown characters, which, on trying to transfer it to Oaxaca, was broken into four pieces; but notwithstanding this, it was taken to the city in that broken condition and those broken portions are in the Trinidad suburb, in one of the houses which said Corsi had erected and built, having been utilized as the bottom of a gutter to drain the garden of said house...."

This Ms. no doubt belongs to the XVIII century, and by it we see that, at that early date, "Monte Alban" was known, and explorations had been made there.

(V) In the work "Xochicalco," written and published by Lic. Cecelio A. Robelo, Cuernavaca, in its page 9, note (* *) can be read: "Señor Leopoldo Batres made an excursion to Xochicalco in 1886, which was joined, by recommendation of the Governor of the State, by Engineer Augustin H. Gutierrez and myself. The young archaeologist, after having examined the grand *relievos* and the mysterious signs of the monument, exclaimed: 'I have read on these stones as in an open book'! These words made me conceive the hope that Señor Batres would draw aside the thick veil that hides from the scientific world the origin and the purpose of that monument; but, unhappily, up to this date he has not published *what he read* on that occasion."

Monsieur Charnay, in the "Revue d'Ethnographie," Vol. VII, page 459, writes: "I have before me the photograph of Xochicalco.... on one of the large stone panels, the Quetzalcoatl is engraved under an identical form as the one we find in the Troano Codex, page 27 of its first part. The body of this personage is accompanied by symbolical signs, targets, and katunes, like those of Palenque, of Yucatan, and of Guatemala. Others, of these photographs, show us a *basso-relievo* with personages painted in the Oriental fashion, with garments and head-gears which reproduce, in the most absolute manner, those on the Altar of Copan, as shown us by Stephens and Maudslay."

(VI) Paso y Troncoso's "Exposition and Description of the Borbonic Codex," page 349.

(VII) To strengthen still more my opinion on the origin of the hieroglyphs to which reference has been made, I copy, hereafter, two texts which I consider to be demonstrative enough:

1st. "They worshiped (the Mayas) idols manufactured of clay, in the shape of small pots and of sweet basil pots, having, on their outside, dissimilar faces; they burned, in those pots, a rosin called 'copal,' which had a powerful smell." (The Valladolid narrative, by Guillen de las Cases, 1576.)

Whoever is familiar with Mixteco-Zapotecan figures, in the shape of vases (pots and sweet basil pots), which are found in the state of Oaxaca in such profusion, and which Dupaix calls "candlesticks," and Dr. E. Seler "sacred vases," shall not fail to identify them with those mentioned in the above text. My brother, F. Leon C., the curator of the Oaxaca Museum, is the possessor of one of these vases (brought from Yanhuitlan). It

contains remains of the rosin which was burned in it. and it has been ascertained that that rosin was "copal."

It is no common thing to find those vases in that condition, and still less those in which genuine "Zapotecapan" was burned.

2nd. "There was a people in Central America," writes a learned Spanish archaeologist—"which mixed up, most probably, in their origin, with Mayas and Nahuas, resemble both of these races in many respects, although, by reason of their architecture, reveal a more intimate relationship with the latter than with the former. That people was the Zapotecans, which now inhabit the actual province of Oaxaca. . . ." (Viscount Palazuelos, in his "The Maya and the Nahua Arts"; "El Centenario," Vol. IV.)

The Mural Paintings of Yucatan.

BY

EDWARD H. THOMPSON.

Up to the present time there are known to exist ninety-two groups of ruins in Yucatan. I call a collection of ruins a group when they have or show signs of once having had a temple. The temple then was the center of all life action and the index of unity. It was usually placed upon a terraced pyramid so high as to overlook all other structures. Some of these groups have name that have come down to us clear-toned through the ages. *Chichen Itzá*, "The Mouth the Itzas Well" Ek balam Mutul, now wrongly pronounced Motul, are of this type of names. Others have names that faintly echo the sounds of great events long passed before the white man came. *Uxmal*, the "Thrice Destroyed" is of this type, and seems to indicate the terrible conflicts that are known to have occurred long previous to the coming of the whites. Other groups have been named by the wandering hunters or native planters from distinctive features that presented itself to their vision. Thus *Labná*, "Old Houses," and *Xlab pak*, "Old Walls," were named long after they were deserted. Structures and their names once pronounced by teeming multitudes, are now buried in oblivion. Even these recently given names change as the generations of natives that gave them pass away and new ones are born. These see with new eyes and give new names to the old ruins. Many of the names mentioned by Stephens, but little over fifty years ago, are now either obsolete or transposed, and there are many groups still buried in the forest and jungle that are nameless. Unless they have some snug chamber within which the native can dwell at need, store his corn or cook his meals when the storm overtakes him, he does not even try to name them, but simply refers to them as *mulés*. Now *mul* in Maya, as understood to-day, means severally a heap of stones, a hummock, a mound, or a projecting ledge rock.

Beside the groups already known to us there are probably thirty more of various sizes hidden in the forests. It is not probable that these unvisited groups are of any considerable size,

and from Indian accounts it is absolutely certain that not one equals in magnitude the greater groups like Chichen Itza, Uxmal, Labná, or Kabah. The unexplored section of Yucatan is not large, and the reason why it has not been thoroughly explored is because of its known paucity of ruined structures of sufficient interest to attract the student and investigator. Thus we can safely estimate that in ancient times there were about one hundred and twenty-five centers of population upon the peninsula of Yucatan.

Three discoveries of importance have been made among these ruined groups since the last meeting of this Congress. I refer to the discovery of the inscribed tablet at Chichen Itza, containing the long sought-for initial glyphs. The second is the discovery of the quarries and saheab mines that furnish the stone blocks and the building material that went into the construction of these great edifices. And last, but not least, the finding of some most interesting mural paintings upon the walls of obscure chambers in the little known groups of Chaemultun and Tzulá. Until the discovery of these mural paintings of Chaemultun and Tzulá, those upon the walls of the two great edifices of Chichen Itza were the only measurably perfect examples known to exist.

This fact will, perhaps, emphasize the importance of the finds now made public at this meeting. The square and painted pillars recently brought to light at Chichen Itza, with colors still bright on their carvings, are important not only in themselves, but in the facts that they lead up to. Evidence is slowly but surely being brought forth to prove that these artists in colors played a part among these people, second only to their brothers, the sculptors.

I desire to call attention to the fact that in all these columns the background of the central panel, the one containing the human figure nearly life-size, is a red, the native color motif for the earth, as is seen most clearly by reference to the codices and the mural paintings. The panels above and below, the lesser panels containing grotesque figures have, on the contrary, a blue-green background, the conventional color for water. Furthermore, seemingly to emphasize the fact that it was desired to depict the waters of the sea, the grotesque figure (an aged person with a long beard, sustaining on his upturned palms the weight of the figure above him) is surrounded by carved and

painted figure representations of creatures unmistakably living in the sea. Among these peculiar figures is a life-like representation of the fish known as the "sea horse." The placing of the land panels between those of the water was not done without a purpose. What was that purpose? I am inclined to the belief that in every one of the important groups there was at least one building upon whose walls were depicted, in outline or colors, the history of the group or the record of certain important events during a stated period. This conjecture has, for its foundation, the fact that I have found upon several chamber-walls traces of consecutive layers of painted surfaces. In a chamber at Chichen Itza, whose battered walls showed traces of having once held a series of these paintings, I found four layers of thin white stucco and each layer had been covered with paintings. That most of these paintings have disappeared is not strange, and the only wonder is that any have survived the combined attacks of time, climate, insect ravages, and human vandalism. The mural paintings of Chichen that are preserved is due to their exceptionally sheltered position upon the wall of an inner chamber, still perfect. The paintings of Chacmultun were not only protected by being upon the inner wall of a chamber, yet perfect, but the entrance to this chamber was so insignificant and the walls so covered with grime and a stalagmitic veil when I found it that no one, save an archaeologist, would seek to enter it. The paintings that once covered the walls of certain chambers in the hitherto unknown group of Tzulá were of a character to make the heart of the student bleed at the havoc that time and the elements have worked upon them. The portions that I have succeeded in copying will make clear, I think, how interesting and important they must have once been.

The ancient artists, so far as we can ascertain by close study under favorable conditions, used brushes of the finest hair and of various sizes. Traces upon certain wall surfaces also seem to indicate that they had something of a pencil or crayon-like character, made of an iron oxide mixed with a fixed fat. This fixed fat seems to have been of the nature of palmatine, and may have been a tallow extracted from some plant or perhaps from the fat of the deer.

In stating this fact please do not believe that I am led astray at this point by the artistic efforts that explorers have expended

upon the walls of Chichen Itza. My investigations have taken place in sites untouched by the pencil or crayons of previous explorers, and upon the small, but exceptionally fortunate bits that I have encountered at various times in my explorations of many years.

The principal colors in use among these people were a deep and a brick-red, a chocolate-brown, two shades of blue, a bright gamboge-yellow turning to a tau-yellow by age, two shades of green, and a color that may have been a purple shading into brown. That they had white and black goes without saying. These pigments were mostly, I think, made by the natives from plants by processes not entirely unknown to the Mayas of to-day. The oxides of iron and certain earth, resembling yellow ochre, were used, and I have examined the ancient diggings from which they were extracted.

Indian Tribes of the State of Oaxaca and Their Languages.

BY

FRANCISCO BELMAR.

I am not a stranger to the fear of those who know and measure their strength, before undertaking works of a high degree. Therefore, in appearing before this honorable body, where the principles that rule and govern are the love of investigation, which covers with a mantle of charity all ambition and envy, to contribute, with my feeble elements, what, it is to be hoped, will be for the information of this great Congress, which is to-day assembled in the greatest city on the American Continent.

Science is not formed by separated facts, but it consists of a chain whose links form a complete harmony. When these links have been broken and scattered by time, or the vandalism of man, it becomes necessary to gather them again, and reconstruct the chain.

In the grand Continent of Columbus, where the waters of the sea bathe the coast on either side, there lived and flourished, for many centuries, a prosperous and numerous people, of whose civilization and existence the human race were ignorant at that time, which was before the discovery of this continent; these people, shut in and surrounded by their rich and varied country, formed links which have contributed to science, and the generations which have followed them.

These people left monuments and colossal edifices which have been destroyed, as well as crypts, which have contained objects of inestimable value, as well as fragments of sculpture, or hieroglyphics, nearly all of which have been given over to destruction. These would have been of inestimable value to science, and to the investigation of those who are interested in this science.

Fortunately, there has not been destroyed all of the remains of these human races, and their remains are to be found scattered all over the American continent, in the study of whose life, civilization, modes of government, and advancement in the arts and sciences as represented by their remains, the men of science

have taken a great interest, not only those of Europe and America, but as well as those of the United States.

It would seem to be that those prehistoric tribes, whose ancient principal original home, was in the cold north and south, and whose current of immigration, overflowing, reached at length the fertile and beautiful valleys, which are contained between the broken and precipitous mountain ranges, which now form the territory of Oaxaca, under whose blue sky, and from whose rich soil they found protection and sufficient substance, not only to conserve and defend the rights and liberties of the race, but also giving, in the course of time and centuries, origin to the different and numerous tribes which now people said State.

Mute testimony of their grandeur are the beautiful ruins of Mitla, the extensive monuments which cover the mountain of Monte Alban, and many other monuments of gigantic proportions which are scattered through the territory of the State.

What races of people were these whose architects and designers have left such great monolithic sculptures which record their history and religion? Whose language has been formed into so many others that it causes our admiration and surprise?

From the boundary which forms the State of Pueblo, to the limits which form those of Guerrero, there is contained a large extension of country over whose hills and valleys the Mixteca race has spread out, making this their tribal home, their history and origin being involved in the obscurity of mythological time, being at first a weak and feeble people, they, yet through adversity and through strife with the other races which surrounded them, arose to be a vigorous and prosperous people in pre-Columbian times, leaving for our admiration the remains of such powerful and prosperous cities as Tututepec, Achiutla, Tilantongo, and many others.

From the fertile lands of the Isthmus of Tehuantepec to and through the valleys of Oaxaca, the Zapoteca race extended and occupied a grand extension of land, surrounding and enclosing the tribes of the Chontales, Zoques, Ayookes and Huaves. Establishing and fixing their frontier limits with the Mixtecas, Chinantecos and Mazatecos, their principal cities being Zaachila, Etla, Huitzo, Tlacoachahuaya, Teotitlán del Valle, Tehuantepec, and many others, which were among the largest and most important

cities of the Zapoteca empire, and whose sciences competed in a high degree with that of the Azteca race.

These two races, the Mixteca and Zapoteca, were in pre-Columbian times proprietors of the territory of the extensive province of Oaxaca, which extended from the territory of Pueblo to the neighboring States of Guerrero and Chiapas, they being, without doubt, the first races with tribal relations, and established system of government to invade this territory coming from the north, expelling, overcoming and absorbing the native people of the different and distinct races who they found in possession of the country and whose remains appears to be the grand ruins of Monte Albán.

By the side of the Mixteca and of as ancient a character as they are to be found the Chocho, a vigorous and well-civilized tribe, whose home was the rich and extensive city of Coixtlahuaca. Also the Cuicatecas, whose principal city was the powerful and prosperous city of Cuicatlán, as well as the Mazatecas, who occupied the extensive territory which is now included in the actual Districts of Teotitlán and Tuxtepec.

In the midst of the populous tribe of the Mixtecas are to be found the Triques, who have been reduced to the villages of Itunyoso, Copala and Chicahuaxtla, which now form the Parish of San Andrés Chicahuaxtla. This tribe, in my opinion, has been formed from the Chochi race, which became scattered for some unknown cause from their original territory, and who have established their pueblos and ranches in the mountainous regions which they now occupy, and whose existence has been confounded with that of the Mixteca, or else completely ignored by the chroniclers of the State of Oaxaca. Mr. Orosco y Berra, in his writing, placed the Triques by the side of the Chontales, which error was rectified by me in a small pamphlet referring to the Trique language, and published in 1897.

In the district of Jamiltepéc the Amuzgos tribe has spread out and extended from their principal homes, which are to be found in the State of Guerrero. Limited by the Zapotecas on the north, on the west by the Mixtecas and the Pacific Ocean; on the south are to be found the Chatina race, whose principal population extends through the District of Juquila.

In the present limits of the district of Zimatlán, occupying a small extension of territory, and limited in the west by the Mix-

tecas, are to be found a few pueblos, which were formerly known by the name of Papabucos, and which are now confounded with the Zapotecas, to which race they properly belong.

To the north, and limited by the state of Veracruz, are to be found spread out and extended the Chinanteca tribe, occupying a considerable section of territory, which comprises parts of the districts of Cuicatján, Teotitlán, Tuxtepec, Ixtlán, Villa Alta and Choapam.

The six tribes comprising the Mixtecas, Triques, Amuzgos, Chochis, Cuicatecas and Mazatecas present a common ethnographic type, notwithstanding the frequent accidental differences, due to climatic influences, and other modifications which the tribes have suffered during the lapse of centuries.

The other four tribes, comprising the Zapoteca, Chatina, Papabuca and Chinanteca, form another distinct ethnographic group, with many characteristics in common.

In the midst of and surrounded by the extensive and populous tribe of the Zapotecas are to be found the tribe of the Ayooques, or Mixes, whose principal nucleus are to be found in the districts of Yautepec, Villa Alta and Choapam.

Farther to the east, in the district of Juchitán, are to be found two pueblos of the Zoque race, which have become separated from the principal parent tribe, which race populate and occupy extensive tracts of land in the state of Chiapas, and from where they have emigrated to their present home.

In the southern part of the district of Yautepec, and limited by the Zapoteca tribe, we find the Chontal race, whose principal pueblos are Ecatepecs and whose lands border on the Pacific Coast. Along the same coast, and on the borders of the lakes which have been formed by the waters of the sea and in the district of Juchitán we find also the pueblos of Santa Maria, San Dionisio, San Francisco del mar and Ixhutatán, which belong to the once powerful tribe of the Huaves.

In the northern part of the districts of Teotitlán and Tuxtepec several pueblos of the Azteca race have been introduced.

These four races of the Ayook, Zoque, Chontal and Huave are to be found completely isolated from the other tribes who occupy the adjoining territory, holding themselves aloof from all intercourse with the neighboring tribes in the section which they

occupy, and whose origin has caused a great deal of discussion by many writers.

As it may be seen in the ethnographic plan which accompanies this dissertation at the end, it will be found that the Mixtecas and Zapotecas occupy the greater portion of the territory of the state, while the other tribes occupy more or less smaller areas.

In respect to their origin and precedence, the chroniclers and historians claim that they have come from the regions of the north, following the same general route of migration. Authorities, such as Orosco y Berra, claim that the Mixtecas invaded the territory of the state some time after the Zapotecas, and that they encountered the Chochos already situated in this territory. But as this is not the principal point which we propose to discuss, we will leave to one side of the investigation of their origin and proceed to occupy ourselves with their languages.

The ancient historians have noted among the different languages spoken in the territory of the state of Oaxaca those of the Mixteca, Trique, Amuzgo, Papabuca, Chatina, Solteca, Cuicateca, Popoloca or Chocha, Mazateca, Chantaleño, Chontal, Mixe, Zoque, Huave, Zapoteco, Huatiquimane and Ixcateco, without including the many different dialects which have been formed from these languages.

The extensive study of the Zapoteca language, made by Córdova and others during colonial times, presents a characteristic and archaic type specially in the conjugation and prefixes of time and mode, which give to the verbs sufficient variations and amplitude so as to express the modifications of thoughts and form expressions in the most ample sense. We therefore find that this language has four principal prefixes of the present tense: ko, pe, pi, ki, and four of the future: ka, ke, ko, ki.

These prefixes having been modified by time, custom and use during the progress of development and the passing of years among the different pueblos, have given origin to the different dialects of the Zapoteca tongue, the principal one of which, being known as those of the Serrano of Ixtlán, Serrano of Cajonos, the Villalteco, the Nexicha, the Miahuateco Serrano, the Tehuano and the Papabuca of Elotepéc.

Following the invariable course of these modifications, some times anifonic, and some times omitive, there has been formed the Chatino language, which is spoken by the tribe of this name

in the district of Juquila, which tongue presents a great variety of dialects, which go to mark with great clearness and distinction their introduction and formation.

The Papabuco, being one of the tongues which does not mark any great separation from that of the Zapoteca, thereby not forming a special language.

The Chinanteca, whose idioms of expression are very difficult of pronunciation and is only spoken by the tribes of the name, shows traces of the same formation as that of the Zapoteca language, and if it is not derived from this tongue it at least shows that they have a common origin and a near relation.

The same can be said of the language of the Amuzgos, whose verbal prefixes are more of the same form and structure as those of the Zapoteca, and which marks a distinct line of separation between these groups of the Zapoteca and the other languages of the eastern part of the State. (See the study of Amuzgo, published in 1901.)

The morphological essence of the Amuzgo's verbs is presented in a form more archaic than that of the Mixteca's verbs, which, through the transcourse of time, have lost some of their prefixes, both of time and mode which goes to indicate the posterior formation and establishment of the Mixteca, and is proved and demonstrated in the dialects of the same formation which have sprung from the Zapoteca language, and whose tendency is the simplification of the prefixal system.

The Mazateca tongue presents the same morphological characteristics as the Amuzgo, while presenting a formation more archaic than the Mixteca, and appears to have been contemporary with the Amuzgo, if not anterior.

Following these languages are the Cuicateco, spoken by the tribe of the same name, and the Popoloca, or Chocho of Coixlahuaca, whose elemental verbal prefixes present more simple forms.

The Trique, in reduced numbers, and, who populate the towns of Copala, Chicahuaxtla and Itunyoso, have a language which appears to be of recent formation, and to be derived from the Popoloca tongue.

Establishing our reasons from these precedents, which are founded on the investigation of the many different languages which are spoken in the territory of the state of Oaxaca, logically we can state the order of the formation of the tongues which are

related to each other, and the precedence and principles of each, or all of them, the Zapoteca and the Amuzgo, being the principal or parent types of them. With the first are related the language of the Chatino, Papabuco and Chinanteco, and with the second the Mixteca, the Mazateca, the Cuicateca, the Popoloca, the Trique, and as well, also, as the numerous dialects which have sprung from each of them, and which we omit for brevity sake.

The Huatiquimane has been considered by Mr. Orosco y Berra as a lost language, but I consider that it is the same as that of the Mazateca, it being my opinion that the pueblo of Mazatlán has given to this language its name, the name of Huatiquimane having been lost in the course of time.

They mention also the Ixcateco, Solteco and Chantaleno as lost languages. The first is spoken actually in the pueblo of Ixcatlán and is a dialect from the Mazateco, approaching in construction that of the Chocho; the second is Zapoteco and is spoken in the pueblo of Sola; and the third appears to be the same of the Chontal or Chontalino.

In the eastern part of the state is to be found the tribe which belong to the Ayook race, completely surrounded by the Zapotecas, and whose language has been known by the name of the Mixe, and the study of which I have the pleasure to dedicate to this Congress. This language is greatly separated in its morphological system from the languages before analyzed. Related to the Ayook we find the Zoque tongue, which is spoken in the two small pueblos of Chimalapa, in the actual district of Juchitán. Yet, in the examination of both languages their morphology presents many identical characteristics, showing their close relation, as well as indicating that the Zoque is more archaic than the Ayook. Corresponding to the Ayook are the dialects mohtuam, eotum and humah, with very little differences. This tongue presents more established signs and character than those of the groups of the Zapoteca; therefore, their dialects or idioms are less numerous.

Bordering on the Pacific coast and surrounded also by the Zapotecas we find the Chontal tribe, whose language has been considered the same as the Maya Quiche, by Hervas, and a distinct family by Balbi. In my study of the Chontal language, which was published in 1900, I lightly compared this language

with that of the Mexicans, and, in my conception, it probably belongs to the family of this name.

It only remains for me to speak of the Huave language, which is entirely separated from all the other languages of the territory, and almost unknown by the authors who have written of this tribe, and have classified its language as belonging to that of the Maya Quiche. In the last year of 1901 I published a study of the idioms of the Huave language, and compared the morphology of the verbs of this tongue with that of the family of the Maya Quinche, making a note of the common precedence of said language. Consequently I placed the Huave in that of the family of the Maya Quiche.

In concluding my study for the formation of the different idioms of the state I have arrived at the following conclusions, which, in my judgment, appear to be the most rational.

FIRST.

The Zapoteca tongue presents signs of being one of the most archaic languages of the territory of the state, being followed in its antiquity by the other languages of the same family, as will be seen by the table of verbal prefixes, which are herewith presented.

SECOND.

The Ayook language, as well as the Chontal, Huave and Zoque, have no relation with the group of languages which appertain to the Zapoteca and Mixteca.

THIRD.

The languages of the two groups, Zapoteca and Mixteca, have a common origin.

FOURTH.

The languages of the state of Oaxaca may be classified in the following manner:

1.

1. The Zapotecan family (Mixteco Zapoteca). This family is comprised of the groups which belong to the Zapoteca and Mixteca.

The Zapoteca group comprises:

1. The Zapoteca language, with the following dialects: Serrano of Sierra Juárez with various sub-dialects; Nexicho, Serrano of Cajonos, Serrano of Miahuatlán, Zapoteca of Tehuantepec.
2. Papabuco (properly a dialect of the Zapoteca).

TABLE OF VERBAL PREFIXES IN THE ZAPOTÉCA FAMILY.

	Present prefixes.	Past prefixes.	Future prefixes.
Zapoteca group.			
Ancient Zapoteco.	ta, te, to, tu,	ko, pe, pi,	ka, ke, ki, ko.
Actual id.	ra, re, ri, ro.	go, be, bi.	ga, ge, gi, go.
Cajonos id.	cha, che, chi, cho.	go, be, bi.	ga, ge, gi, go.
Serrano id.	ra, re, ri, ru.	gu, be, bi.	ga, gue, gi, gu.
Papabuco.	ra, er, ri, ro.	ko, be, bi, go.	ka, i, ko.
Chatino.	a, de, guí, di.	ga, gu, kua, gee.	ku, ki, ka.
Chinanteco.	Lost its prefixes	ka.	Lost its prefixes.
Mixteca group.			
Amuzgo.	ka, kua, na, ko.	ta, te, ti, to (tu)	ka, gna, ke, kue (ge, gi, kui, ko).
Mazateco.	fua, ti, ki, ku.	da, de, di, do,	kua, kui, tsi, ko.
Chicameco.	nga, nge, ngi, ngo.	ha, ki, ko, tsi.	ka, kue, ku ko
Popoloca.	nda, nde, ndi, ndo.	cha, che, chi, cho.	kui.
	da, de, di, do.	nda, nde, ndi, ndo.	sa, se, si, so.
	tra, tre, tri, tro.	ku, be, bi, u.	
Trique.			ka.
Mixteco.	yo.	gna, ka, gu.	Lost.—Accidental prefixes
		ni.	ko, ku, kue, kui.

3. Chatino and its dialects.
4. Chinanteco with its dialects.

II. The Mixteca group comprises the following languages:

1. Amuzgo and its dialects.
2. Mazateca and its dialects.
3. Ixcateco (properly a dialect of the Mazateca).
4. Cuicateco and its dialects.
5. Popoloco (Chocho) and its dialects.
6. Trique.
7. Mixteco and its dialects.

2.

Zoquean family (Zoque-Mixe).

This family comprises the following languages:

1. Zoque and its dialects.
2. Ayook (Mixe) and its dialects, which comprise the Mohtuau, Cotun and Humah.
3. Chontal.—This language probably belongs to the Nauatl family.
4. Huave.—This language belongs to the Maya-Quiche family.
5. Mexican, which belongs to the family of the same name.

Such has been the result of my work in the study of the languages of the state of Oaxaca, which I take pleasure in presenting for the scientific discussion of the members of this honorable assembly, hoping that it may be of some utility in the scientific study of American philology and ethnography.

The Racial Unity of the Historic and Prehistoric Aboriginal People of Arizona and New Mexico.

BY

WILLIAM P. BLAKE.

The extent of the territory of Arizona and New Mexico was greater than that of New England and New York combined. We are all familiar with the ruins of Arizona and New Mexico, especially those of the Cliff Dwellers, but many of us have never heard of the almost innumerable evidences, or innumerable sites of ancient pueblos throughout southwestern Arizona, and we can only see and know of them in detail by traveling through the mountains. Wherever in that territory we find living water there we may look with confidence for evidences of pre-occupation by human beings—for evidence of ancient populations. Those evidences are strong, and are spread everywhere; and in these ruins are found evidences of a unity of race, of habits and of customs.

There is, first, the unity of architecture. Where the walls of adobe have washed down and mingled with the dust of the plains there are still rooted in the soil stone posts, which are set on end in such a way as to show that the ancient people built their houses similarly over a vast extent of country. These stone posts were usually selected with reference to their extreme length, and to-day they appeared like so many hitching-posts, set in the soil, but placed in rectangular form, one after the other, in such a way as to show a complete plan of the ancient villages. These villages were connected with the water courses by ancient ditches.

Second, as an evidence of unity of life and race there is a similarity of pottery. Wherever we might go among these ruins we see in the soil fragments of crude red pottery, and also pottery having a white coating on a red base.

Third, the decoration of the pottery throughout this great re-

gion is similar in designs and technique. There is a unity in the decorative art. We find great variations, of course, according to the individual skill and artistic sense of the designer, as we would in any community.

Fourth, the general use of *chalchihuitl*. Chalchihuitl was in general use for personal decoration, and was found by the early explorers in large quantities in the northern pueblos of Arizona. The excavations for this stone were extensive and deep in some places, and in the débris an abundance of stone implements has been found.

The name "*chalchihuitl*" has been said by some, notably by the late E. G. Squier, to be a generic term, and to apply equally to jade, and we hope that some of the delegates will be able to enlighten us in regard to the ancient use of that term in Mexico. It has been said that it was applied to jade, but we are not of that opinion. If you ask a Zuni or Navajo Indian for *chalchihuitl* he produces turquoise, not jade. In all the ruins we have never found any evidences of jade ornaments—a much rarer mineral than *chalchihuitl*. Members of the Congress will find in the American Museum of Natural History some beautiful examples of *chalchihuitl* beads for necklaces, perforated for thread. These are to be found in almost all the ruins of Arizona.

Progress in archaeology has been made in the great territory from which he was a delegate, and the people of Arizona are not unmindful of the excellence of that field for exploration, and of their contribution to the great museums of the United States and the world; but they are anxious to retain within the limits of the territory some evidences of his prehistoric life. There have been in the past wanton destruction of the cliff dwellings and the relics found there; but, in saying that, we do not have reference so much to Museums and Societies as to ruthless destroyers who have shipped away for sale whole collections stolen from these ancient ruins, and generally so poorly packed that they are utterly destroyed and lost in transportation.

Indian Words in the Dutch Language and in Use at Dutch Guiana.

BY

L. C. VAN PANHUYB.

Some years ago I obtained a reprint of a "dictionarium gallice latine et galibi," edited by Car. Fr. Ph. de Martius, and out of that work I made a list of Indian words, which are in use in Dutch Guiana. A few are in general use in the Netherlands. As Mr. de Martius remarks, the words in the dictionary are of a different origin; some were noted down in 1643 by Paul Boyer at the Galibis at Cap du Nord, others by P. Denis Meland and Pelleprat near the Gulf of Paria in 1653; in Cayenne; from the works of de Laet and Labat and from Aublet's "Histoïr des plantes de la Guiane Française," and Noyer's "Fôrest vierges de la Guiane Française (1827)." So the dictionary contains several dialects, and also words from the Arowacks and the Tupi. It would be interesting to state which words of those noted down in my list are in this time in use by the Caribs coast Indians, one of the three tribes of the coast Indians of Dutch Guiana, who are now for nearly two centuries and a half in connection with the Dutch, and who have learned the "lingoa geral" of the colony, the so-called negro-English. To speak about this last language or dialect here would carry me too far, enough to state that this negro-English contains Dutch, English, Spanish, Portuguese, French, Carib, Arowack, and African words. It may be that the Caribs have taken some words out of this negro-English, for their own Carib language.

The following words from the dictionary are adopted in the Dutch language and are used in the Netherlands:

Kaaiman, (Latin, Caiman), the reptile; *karet*, a certain sea turtle (the name is given in Dutch to its back-shield, out of which little boxes, combs, hairpins and paper-knives are made); *colibri*, the well-known "gem"—bird;¹ *tapir* (Latin, Tapirus),²

¹ "An vox galibri? asks de Martius. According to Kappler (Surinam page 221), the colibai is called in Carib: "tokosi."

² Carib: Maipouri.

the South American Buffalo and *ananas* (Arrowack, nana), pineapple. Not in *general* use in the Netherlands are: *toekan* (Latin, Rhamphastos), a bird also called in Dutch, "pepper eater", pepper-eater: and *manioc*¹ (Latin, *Jatropha Manihot*), the Indian meal-giving plant.

In Dutch Guiana the following Indian words from the dictionary are in use: *cassiri*, a drink made of sweet Batates; *corjaal*, Indian boat, made out of a tree; *piai*(*man*), Indian sorcerer; *joroka*, *devil*; *Kocroc Kocroc*, small basket; *biri biri*, swamp; *casseripo*, boiled juice of the manioc-root; *manari*, Indian sieve, in general use by the colonists; *matappi*, twisted cylinder to press out the poisonous juice of the manioc; *agami* (Latin, *Psophia crepitans*), a bird walking tame about the villages of the Indians and Bush-negroes and which I often saw there playing "hide and seek" with the children and amusing them by its deep base sound; *awarra* (Latin, *Astro-caryum Awarra. de Vriese*), a palm, also a parrot; *coucréman* (kweriman, Latin, *Mugil brasiliensis*. Agass.) a fish; *maco*, makoe, a kind of mosquito; *maipouri*, only heard in names of places and creeks. Carib name of the tapir; *pingo* (Latin *Dycotyles labiatus*. Cuv.), bush-swine; *sagowyn* (Latin *Midas rufimanus*. Geoff.), a small monkey; *sibari* (sipari, only in names), thorn-back; *chico* (chica, Latin, *Pulex penetrans*), sand flea; *carapa* (Latin, *Carapa guyanensis*. Aubl.), a tree; *couami* (Latin, *Clibadium Surinamense*. L.), a plant; *couak*, called in the dictionary a word from "a lingua Taino", roasted manioc meal; *cout sauvé* (coesoewé) Latin, *Bixa orellana*. L.), the red pigment from the plant; *maraka*, magic rattle; *mani* (Latin, *Monoroea coccinea*. Aubl.), a tree, giving resin to repair the Indian boats; *mapi* (napi, Latin, *Dioscorea Sativa*. L.), giving eatable root turnips; *maripa* (Latin, *Maximiliana regia*. Mart.), a palm; *moucou-moucou* (Mokko-mokko, Latin, *Caladium arborescens*. Vent.), a water plant; *Simaruba*, (Latin *Simaruba amara*. Aubl.), a tree; *tayer* (Latin, *Arum esculentum*. L.), an edible root turnip: and *balata* (Latin, *mimusops Balata*. Gaertn.), giving the well-known milksap, an elastic gum. The word *amonbé*, or *mombé*, for avaricious, unknown in the common negro-

¹ It is very curious to remark that in Carib one word: "Alepa," is used for: cassave or manioc meal, as well as for the act of eating in general. In English we have a same peculiarity: the word, "meal," means the product of corn and also, "dinner." It proves that the civilized, as well as the Indians, have known a time when meal was a general food.

English spoken at Paramaribo, was found to be in use among the Bush-negroes of the Tapanahoni. I remember very well that the Moravian missionary, Dr. Kersten, relating in negro-English at a Sunday-evening assembly in Albina (on the frontier river between Surinam and French Guiana) his travel to the Tapanahony, said that the Bush-negroes there had called him the chief of the "mombé", because he (rightly) refused their repeated demands for a drink.

So far the words of the dictionary. There are, however, several more Indian words in use in Surinam or in the Netherlands, as, for instance, *hamaka*, original Arowack,¹ but taken up in negro-English, being the same as the Dutch "hangmat" and the English "hammock";² *batatas* (Latin, *Dioscorea Batatas*. Decaisne), which has (and this is a remark from Professor Veth) become in England "potatoes" for the *Solanum tuberosum*, and in Swedish—and I add in Netherland dialects, "potäter"; *tapana*, intoxicating drink made from cassave; *craveru*, pigment of *Bignonia chica*; *tapoeripa* (Latin, *Genipa americano*. L.) a pigment giving tree; *pagala*. Indian basket; names of fishes as: *Kuma kuma* (Latin *Arius emphysetus*. M.), *warappa* (Latin, *Erythrinus unitaeniatus*. Spix), *pirai* (*Serrasalmo piraya*. Cuv.) and *anjoemara* (*Macredon aimara*. Spix); farther: *tamanoa*, or ant-eater (Latin *Myrmecophaga jubata*); *warimbo* (Latin, *Phrynium Casupa*. Rox.), a fibre-giving plant, and still several others.

There has never been much attention paid to this subject neither in the Netherlands nor in the colony,; as far as I could find it was only treated by Professor Veth, who spoke about the origin of *ananas*, *batatas*, and *kaaiman*, and especially how these words came into use in the Netherlands *East Indies*, in his interesting book, "Uit Oost en West" (from East and West), 1889. He adds *leguaan* (Latin, *Iguana*), of which Littré said "Etym. Yuana, mot caraïbe, cité par Oviedo en 1525," and also *cacao* and *chocolate*, from the Mexican words *cacahuatl* and *chocalatl*.³

It may be stated from the above-mentioned that the Dutch have

¹ See the list opposite to page 294 in "Durch Central Brasilien," 1886, by Professor K. von den Steinen.

² Rem. Skeat rightly observed in his etymological dictionary of the English language, 1882, the word was ingeniously corrupted by the Dutch in *hangmat* (a hanging mat).

³ Professor Veth supposes that "Canaan" (Canana) is original African, and says that the name, according to Rumphius, is at home in Guinea. The word "Cakkove" (*pacoba*) is, as well as Canaan, in use in Surinam. See about these words: "Die Einfüh, rung der Banane," pages 310-314, in "Durch Central Brasilien," 1886, by Professor K. von den Steinen.

also from a linguistic point of view, a "debt to the red man". A glance at the list added to the record of the second voyage of Sir Walter Raleigh, will prove that they are also indebted to the Indian for the name of the colony (Surinam) and for nearly all the names of rivers there. For me the name of Paramaribo, the town, is Indian without any doubt. In 1893 I found the following Spanish words still in use among coast Indians at the Saramacca, (caribs), *sombreroe* (sombrero), hat; *cavalloe* (caballo), horse; *arquebusa*, gun; *peer-oh* (perro), dog; and *cabrita*, little goat.

About the Ornamentation in Use by Savage Tribes in Dutch Guiana and Its Meaning.

BY

L. C. VAN PANHUYS.

Against the term "Savage tribes" the remark was made more than once that it gave generally an inaccurate impression. Such might also be the case here, but the expression was chosen to announce that we would have to deal only with the Indians and the Bush-negroes and not with the more civilized part of the population in the colony of Surinam. Among those Indians we call in the first place three tribes of "tamed" savages, known in the colony as Arawacks, Caribs and Warauen (Guaranos), living in the coast—and Savannah—region. There are still other Indians in Surinam, as we know from the voyage of a mixed Dutch-French Commission in 1861 to the Upper-Lawa, from the explorations of Crévaux and Coudreau at the same East frontier river, and from informations from Bush-negroes, but they live in the deep and yet unknown interior and near to the South frontier Tumucumaque mountains. Between those Indians (Acouris, Trios, Oyacoulés and Rucujanas Roucouyennes) and the colonist is no communication; it seems that the Bush-negroes have increased the Indian's fear for the white man, in order to keep in a state of dependency, these Indians with whom they exchange iron axes, knives and beads, for feather-work, hammocks and hunting dogs.

The Bush-negroes, descendants of runaway slaves brought from Africa, have established themselves in several tribes, under chiefs or "Grammans" and with a kind of republican form of government. They kept many reminiscences from Africa in language and manners, of which several are only partially known. They form in almost every respect, as Professor Joest rightly remarked, the most original, remarkable and interesting people in the pres-

ent Guiana. To prove how little they have been studied, I will state that it was found, only a very few years ago, that their chief tribe, the Aucaners (Djoeas) make use of a "drum-language", by which they warn each other, as some peoples in Africa do, in a short time at great distances by means of blows on a drum in a different time and manner.¹ This custom had remained unknown, notwithstanding the daily contact with the colonists.

For the study of these non-civilized tribes of Surinam Mr. Joest's "Ethnographisches und Verwandtes aus Guayana," Internationales Archiv für Ethnographie, Supplement zu Band V, 1893, must be mentioned first. I do not know what led the author to the several wrong impressions and conclusions he gave about the colony; it seems to me that about the colonial "politics", he obtained information from persons who were not to be trusted, and that his stay in the colony was too short to correct their tales, but this does not take away the great value of his work for the anthropology of Surinam. Next to Joest comes Kappler, the patient observer who lived for many years at the Marowynne and wrote "Surinam" U. S. W. (1887); for the history of the Bush-negroes it will be the best to consult the Description of Guiana or the Wild Coast, etc., by Mr. J. J. Hartsinck, D. C. L. 1770. (Translated title.)

Indian ornaments are to be found in basket work, on pottery (woman labor), on clubs, arrows and on their own bodies, especially when going to a dancing-feast. I stated that coast Indians painted ornaments on hammocks made by Bush-negroes, and given to them for the purpose. Farther we have Indian ornaments in "kwejus" and feather work.

As far as my knowledge of Indian ornaments permits, I should say that their ornaments have undergone *no* influence, neither from the Bush-negroes, nor from the more civilized. Knowledge of the Indian manner of thought would be the way to understand their ornamentation, and in that part there is still much to be done. But while we know that the Coast Indians have learned the negro-English, and when there is some probability that they may have adopted some superstitions from the Bush-negroes, I will point out that these Coast Indians have clung strongly to their own primitive customs. The use of fire

¹ Catalogue of the Netherland West-India Exposition at the Colonial Museum at Hearlem in 1899, pages 76 and 77 (Translated title).



PLATE I.



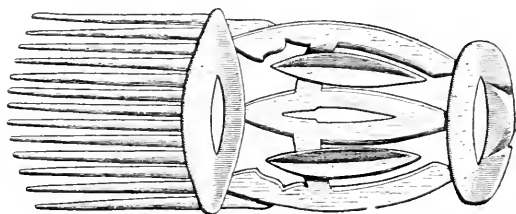
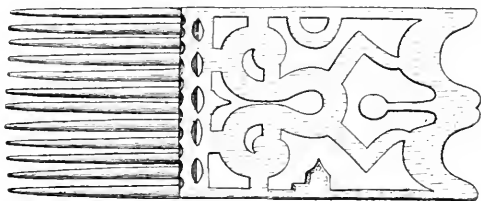
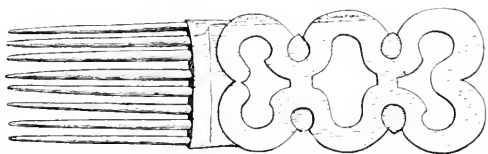
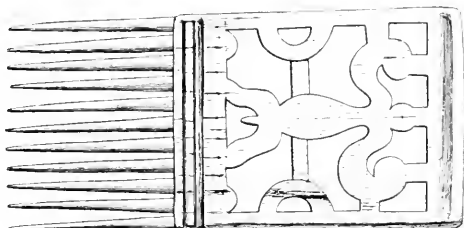
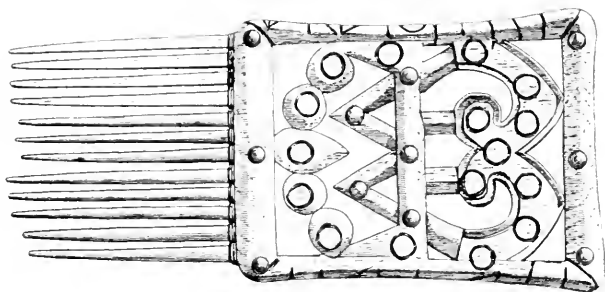


PLATE II.

weapons, of iron axes and knives, of an iron plate instead of a stone one (for roasting manioc meal), of an iron rasp for grating the manioc root, may be, with the use of alcoholic drinks from the white man, the principal ones which they have inherited from the colonists.

About the meaning of Indian ornaments I must refer to the illustrated article in the *International Archiv für Ethnographie*, 1898, in which I tried to indicate that the Indian ornament might be chiefly derived from the frog, that amphibian being considered then by the Indian as a human being.

The Bush-negroes carve their ornaments in wood, on doors, boats, paddles, tables, small seats, scuttles, candle-holders, drums, walking sticks, hairpins, and other objects. Needle-work ornaments are made by men and women in company; carving gourds and tattooing is female labor, so we meet therewith special female ornaments. Influence from the Indians and from the civilized will be observed to a certain degree, but before drawing conclusions I will state how I discovered the meaning of their ornaments.

Several objects (now exposed in the Colonial Museum at Harlem) were collected at Albina, on the east frontier river of Surinam, where I stayed between 1893 and 1896 and came as functionary of the Government, almost in daily contact with Bush-negroes. I got more ornaments there by drawings, or by rubbing wax on Japanese paper, pressed upon the object (method Hjalmar Stolpe). By and by my little friends, the Bush-negro-children gave names, and explained the ornaments which they showed me on their toys, and I got more explanations or could correct that of the children by inviting the older ones to see my collection and by noting down their observations.

From the meaning I got in that way from several hundred ornaments, I come to these preliminary conclusions:

1. Each artist has his own individual work and makes his own combinations, yet the ornaments are strongly under the same (tribal) style.
2. There is a marked difference between the ornaments of the Aucaners (Djoecas) and those of the Saramaccaners (a tribe living at the Upper-Surinam).
3. The ornaments are made by copying animals and objects in the surroundings, and arranging them in the way they think best.

4. The eye of the iguana (*Lacerta agilis*) is the most characteristic ornament by the Aucas and serves for combinations, as for instance for human forms and also for centipedes.

5. The male sex of human figures is always pointed out very distinctly. The phallus is sometimes represented by an arrow.

6. Snake and bird designs are numerous and are represented in connection with religious ideas. Plants are very rare in representation.

7. The tattooing designs are the most conventional and seem to have been copied from each other.

I think it will be of great interest to continue these researches. I have the pleasure of informing the reader that a commission will try to do so. On July 1st, of 1903, two military officers started for Surinam, who will, together with a mining engineer, a doctor, and thirty workmen, explore the Gonini river; will try to collect also by the Stolpe method, Bush-negro ornaments, note down their meaning, and find competent persons in the colony, willing to continue their work. A project is made to explore, in 1904, the Upper-Surinam where perhaps the Trios and other Indians may be reached. Both expeditions will be strongly aided by the Government.

Certain Clay Figures of Teotihuacan.

BY

H. NEWELL WARDLE.

My object, in presenting this brief paper, is not to herald the discovery of any new type of Mexican antiquity, but to correlate certain recorded customs with a definite class of well-known objects. In the course of my work upon the Mexican collections of the Academy of Natural Science of Philadelphia, my attention was drawn to an almost perfect, joined figure from San Juan Teotihuacan (Fig. 1). The type is a familiar one in collections from that locality, and this particular specimen differs only from its congeners by the presence of the hinged legs and the fact that the arms—now broken away—were originally one solid piece with the body.¹ That these torsos when headless, are not always recognized as such, is proven by the amusing fact that two of those, which came to us from a private collection, through a prominent museum, were mounted horizontally, after the manner of animal heads, the breast being mistaken for the eye, the lower perforation for the nostril² (Figs. 2 and 3).

Some years ago, in her memorable paper upon the "Terra-Cotta Heads of San Juan Teotihuacan,"³ Mrs. Nuttall propounded the theory that the perforations through these bodies were intended for the passage of cords in simulation of the lashing of the mummy-bundle. That the piercing of these anything but "mummy-shaped 'objects'" was ever destined for a purpose other than the attachment of the separate legs and arms—each with a single hole through its beveled upper extremity—is extremely doubtful. The character of the limbs, and the manner of their hinging to the trunk, would seriously interfere with the construction of a mummy. Moreover, had such been the destination of the clay figurines in question, it would have been infinitely more practical

¹ The American Museum of Natural History possesses five such figures one only showing a head, and all doubly pierced for the attachment of legs and arms.

² Fig. 5, which is actually an animal head, is shown for comparison.

³ "American Journal of Archaeology," Vol. II.

to model the bunched corpse in a single piece. That the limbs were thus loosely attached, would indicate that motion, not rigidity, life, and not death, was the idea expressed by the native artist.

We know from the record of Diego Duran,—whom Mrs. Nuttall also quotes—that, on the first day of the third month—Tozotzontli—"from tree to tree, across their cultivated fields, they hang sundry cords and from these suspend here and there, little idols or rags, in fine anything, so that those who do not know and understand it, believe that they are scarecrows, or children's playthings, while in reality it is but superstition and abuse."¹

Duran's statement is further confirmed by the fragmentary hymn devoted to this day, which has been published by Dr. Seler from the Nahuatl text of Sahagun.² But, "the little stones, the wee wooden things" of the Nahuatl text is not to be construed as excluding objects of other material—clay, cotton, etc.

When it is remembered that this festival day of the ancient Mexicans was intimately connected with the seed-time of the year, and presided over by the goddess—or god—Cinteotl; that this youthful divinity was the personification of the growing plant, it follows naturally, though not necessarily, that the figurines placed, during the festival of the "watch" above the planted milpas should be the representation of the guardian deity of the maize, Cinteotl. A distinctive feature of her costume at this time, is the red paint upon her face and portions of her body, which Dr. Seler believes to refer to the red tips to the young maize shoots.³ The very decided traces of red paint still visible upon the jointed figure in the Academy's collection (Fig. 1), may be construed as evidence that this terra-cotta was the representation of the goddess, though the peculiar association of the color, red, with the rites of the dead renders the evidence inconclusive."⁴

The heads which pertain to this type of figure, usually lack ornamentation, their maker having depended upon perishable material for the realistic presentation of his concept, but occasionally a series of wavy ridges span the broad head (Fig. 1), or the roll upon the forehead, intended for the fixation of the head-dress, seems to end off in a serpent's uplifted head (Fig. 6), which may

¹ "Historia de los Indias de Nueva Espana," Vol. II, p. 274.

² "Verhandlungen der Königl. Kaiserl. Museum für Völkerkunde," Berlin, Vol. p.

³ Op. cit., p.

⁴ The mortuary red has, of course, a very different origin, but this dual symbolism, and the intimate association of life and death pervade the whole breadth of Aztec thought.



or may not be a reference to that other aspect of this goddess—Chicome Coatl.

It must be admitted that there is a lack of visible means of suspension, if the perforations above mentioned be excluded, but such suspension may have been affected through the medium of the scant clothing.

A second type of these jointed figures (Fig. 7) show a tiny perforation through one side of the head, and the remains of a second upon the opposite edge, which could have served no other purpose than that of suspension. The body is entire, and exhibits four piercings, which, instead of running the entire breadth of the trunk, pass through each shoulder and hip from the anterior to the posterior surface. I have never seen the limbs which completed this figurine, but, from analogy, it must be assumed that they existed. There is no sign of paint, but the ware is hard-baked brick-like red clay.

Little can be said of the third class of these so-called *idolettes* with separate limbs. The one in the Poinsett collection (Fig. 8) is of common light clay, showing no evidence of paint. The head, like that of the second type, has the natural rounded outline. In the manner of perforation, this body forms the connecting link between the other types, a single hole being pierced laterally for the connection of the arms, while two are required for the attachment of the legs. It differs from both the preceding types, however, in the possession of clothing other than a necklace. The dress, or *cuetl*, which is here represented, shows that form of ornamentation so common upon certain other figurines of Nahuatlán, which may be simply coarse weaving, but is usually assumed to represent intertwined serpents—a characteristic more typical of Coatlicue.

I cannot close this paper without reference to the other figure believed by Mrs. Nuttall to represent a mummy, and described by her as "a seated figure," the complete representation of a corpse."¹ If I may be permitted to differ again from so justly eminent a mexicanist, I would point out that the figure is not seated, that there is no indication of the *icpalli*, or low seat, mentioned by the Anonymous Conqueror in his description of burial customs;² and

¹ Loc. cit., p.

² "The Relation of a Gentleman who Attended Hernando Cortes," last page.

that, were it present, the legs could not assume the position here modeled.

There is, in the Lamborn collection of the Academy, a duplicate of that one in Mrs. Nuttall's possession. The little individual, with drawn-up knees, lying on a flat background, surrounded by a raised frame, which is highest above the head, has, in this instance, the hands tied flatly at each side by a broad band (Fig. 9). The proportions of the body, the attitude, the manner of tying, the whole ensemble, are decidedly suggestive not of the close, but of the dawn of life, and the frame is a cradle, not a grave. What the use of such tablets was, I do not venture to conjecture, but that this was suspended from some object, animate or otherwise, is proven by the holes on each side of the neck, for the passage of a slender cord.

To sum up—the jointed clay images from Teotihuacan are not foundations for mummy-bundles, but probably representatives of the goddess, Cinteotl, such as were hung across the fields, to watch over the young seed and aid its growth. The countless multiplication of the goddess would have presented no insuperable difficulty to the ancient Mexican, but, were it otherwise, the concept lay not far removed, of a special guardianship over the family fields, by such virgin relatives as had passed before.

That the representatives might maintain the appearance of eternal youth and abounding life, characteristic of this deity, that they might be ever on the watch at so critical a time, this means of imparting motion to them was there adopted. That, with arms and legs rattling in the breeze, they served incidentally as scarecrows, is quite typical of native American thought, which ever seeks to shroud the practical end within the folds of myth and ancient custom.

Cuzco, The Celestial City.

BY

STANSBURY HAGAR.

When the Spanish conquerors first came in sight of the capital city of the Incas they must have noticed that the Indians who were with them knelt and touched their heads to the earth in reverence for that sacred place and yielded the road to those of their brethren whom they encountered journeying thence, for those who came from the city bore with them some of its superior sanctity. Even the maize which was grown within the city, even the various articles which were manufactured therein, were supposed to surpass any like products from elsewhere, because they had their origin in that hallowed spot. Such was the reverence in which Cuzco was held. In the eyes of the Peruvians it was the most sacred spot on earth, the center of the empire, the home of the Inca and his court, and of all the sacred huacas or objects of worship to the shrines of which, every native made a pilgrimage. All who entered the city carried a burden as a token of reverence. The city is said to have contained four hundred temples. Every fountain, pathway, and wall within it was regarded as the seat of a holy mystery. But while these facts account in part for the sacred associations of the place the foundation of the reverence paid to it lies deeper. To understand it we must examine the nature and meaning of the great scheme in harmony with which the city was laid out, for everything in Cuzco, say several early writers, was based upon a plan observed at Tiahuanaco, the ancient capital or Mecca of the land. This plan was carefully modeled in clay. How greatly it was venerated we may gather from the fact that the Inca generals followed it even in their temporary camps, and the Spaniards themselves seem to have reproduced some of its features in the arrangement of their capital city, Lima.

The naming of Tiahuanacu as the place where this plan originated suggests that it had been handed down from a period an-

terior to that of the Incas, for the impressive ruins at that place bear evidence of a very considerable antiquity, as well as a marked advancement. They were associated by the Incas themselves with a people whose memory survived only in vague tradition when the Spaniards arrived in Peru. It is improbable that the inhabitants of Tiahuanaco were forced to abandon the place as a result of the constantly increasing frigidity of climate, due to a corresponding increase in the attitude of this region. At any rate, the mantle of Tiahuanaco seems to have fallen upon the less lofty valley of Cuzco at an epoch still ancient. Even there the plan seems to have antedated the Incas, for we are told that the first Inca upon his arrival at the site of his future capital, found there a village called Cayau Cachi; but this was the name and position of one of the twelve wards or districts which, we shall see, formed an important part of the plan in question. These facts, as well as the internal evidence, indicate the antiquity and the native origin of the plan which we now seek to understand. Cuzco was supposed to be the central spot of the Inca dominion. The name Cuzco or ccozco means literally navel, hence symbolically center of the earth. Level place, heap (of stones) are other meanings. The city was in fact situated at the approximate centre of the empire. From it four roads extended towards the diagonal points as far as the confines of the country, dividing the whole into four major provinces or *suyu*, called Chinchá, Anti, Colla and Cunti, whence the empire derived its name, Ttahuantinsuyu, the Four Regions. Each of these major provinces in turn was subdivided thrice. The empire consisted, therefore, of twelve provinces in all, surrounding the central city. In shape it was approximately a circle divided by a cross. Through the approximate center of the ancient empire flowed the Vilcamayu or Sacred river. The people of each province wore a form of head-dress and of clothing which distinguished them from their neighbors. No one was allowed to pass from one province to another without official permission. Each province had its own officials, each held a predominant interest in one of the twelve monthly festivals of the Incas, although it observed all of them. Into each the Inca performed a ritual journey at frequent, probably annual, intervals. These singular features were repeated in Cuzco itself, which was, indeed, as Garcilasso called it, an epitome of the empire. South of the center of the city and corresponding with the posi-

tion of the sacred city in the scheme of the empire stood the great sacred edifice, which the Spaniards wrongly called the Temple of the Sun. From the central square of the city the four great roads extended in the four diagonal directions through the city and into the provinces, dividing the city into four sections, named after the four major provinces of the empire. The two northern sections were known as Hanan or Upper Cuzco, and were said to pertain to the Inca; the two southern sections as Hurin or Lower Cuzco, and pertained to the Ccoya or Queen. Doubtless this dual division also existed in the scheme of empire, though it is not reported to us.

Surrounding the temple was a sacred region, on entering which, all must remove their sandals and walk with bared feet.

In oval form around the outskirts of the city were twelve wards, each, as we are definitely told, corresponding in position with one of the provinces, and inhabited by colonists from that province, who wore their peculiar dress, and followed their peculiar one of the provinces, and inhabited by colonists from that province met and held intercourse. But the stranger could at once determine in what ward or province the passersby were domiciled, by observing the head-dress and clothing. Certain of the monthly festivals were celebrated in certain wards. Probably each had its appropriate place, as well as time of celebration. Finally the sacred stream of the Huatanay flowed through the city in a course corresponding to that of the Sacred River in the scheme of the empire. Thus we see that Cuzco did, in truth, reproduce in miniature the salient features of the empire.

If we now compare the plan of the city with a chart of the celestial southern hemisphere a series of analogies appear. The Temple corresponds with the southern pole in position. Curicancha, Golden Place, is the name of the district in which that temple stands. A slight change in this name gives us Caaricancha, Male Place. Only men were allowed to enter its sacred precincts. Numerous examples show that the Peruvians delighted in hiding a significant name beneath another of similar sound. In this case the concealed name at once gives us the key to the symbolism, for Male Group is the name of the south pole and of the constellation of the Southern Cross, the stars of which indicated its position. But in earlier times this name seems to have been confined to the temple, while the district was known as the Chun-

picancha or Bronze Place, apparently a correction of Champicancha. Place of the Bronze Axe, applied to the pole because, lying near the horizon, it was included always within the double curve of the sacred celestial battle axe, formed by earth and sky at their point of approach. A legend of the Miztecs of Southern Mexico affords an interesting comparison. The first celestial beings to reveal themselves to man made a great rock, called the Place of Heaven, on which they built a palace for themselves. At the summit of this rock there was a copper axe-edge uppermost and on this axe the heavens rested.

The association of the celestial pole with the terrestrial central sacred spot has furnished a world-wide symbolism, founded on the conspicuous position and immobility of the celestial point, to which Mrs. Nuttall and others have called attention. It now becomes evident that the name Cuzco itself, meaning navel, refers to the pole as the navel of the sky. The sacred zone around the temple, within which all were required to walk with bared feet, corresponds in position with the celestial zone within which the stars never set. In the scheme of the empire it may have been represented by the district beyond Cuzco, from which the city was visible. The circle of twelve wards surrounding the city occupies the position of the zodiac in the sky. The star chart of Salcamayhua has shown us that the ancient Peruvians possessed a true solar zodiac, the existence of which was also asserted by that master of Peruvian knowledge, the Anonymous Jesuit. There is evidence identifying each ward with its corresponding zodiacal sign, but to present even a satisfactory summary of this evidence is not possible in the limits of this paper. To the following name of the wards we must add that the symbolism of each ward corresponds closely with that of the signs as given by Salcamayhua. The order of the wards is east, south, west, north, instead of east, north, west, south, as we should expect in the southern hemisphere.

THE WARDS OF CUZCO.

As given.	Corrected.	English.	Signs.
1. Quilli Pata.		Kneeling Terrace.	Aries.
2. Carmenca.	Caari Manka.	Pasturing Male.	Taurus.
3. Huaca Puncu.		Sacred Gate.	Gemini.
4. Cantut Pata.		Cantut ¹ Terrace.	Cancer.
5. Puma Cuncu.		Puma Place. ²	Leo.

¹ A flower (*cantua buxifolia*).

² Literally puma bean.

6. Toco Cachi.		Salt Hole.	Virgo.
7. Munay Ssenca.		Loving Nose.	Libra.
8. Rimac Pampa.		Speaking Place.	Scorpius.
9. Pumap Chupam.		Pum's Tail.	Sagittarius.
10. Cayau Cachi.		Foot Print.	Capricornus.
11. Chaquill Chaca.	Chaqui Chaca.	Foot Bridge.	Aquarius.
12. Pichu.		Knot.	Pisces. ¹

In this celestial plan the four major wards became the terrestrial symbols of the divisions of the sky into four regions or seasons, marked by the solstices and equinoxes. At these times occurred the four chief festivals of the Peruvian ritual. Thus upper and lower Cuzco correspond with the two seasons of the year, divided by the equinoxes. One, approximately representing the dry season, was ruled by the Inca as the terrestrial sun, the rainy season in turn being assigned to the Ccoya or queen, as the terrestrial moon. The four wards also form the cruciform symbol which, throughout America, is known to represent the cardinal points. It is worthy of note that our own astronomical symbol of the earth is a circle, divided into four regions by a cross.

Within the circle of the wards and north of the Temple occur a series of districts unsymmetrically distributed, but suggesting by their names and comparative positions that they were also associated symbolically either with the zodiacal signs or with paranatellon constellations, which possessed a similar symbolism. They were inhabited only by the Incas and their descendants. The first of these central districts was known as the Cassana or Freezing. During April, the Aries month, great damage was done to the crops by the frost. Special prayers against this calamity were included in the April ritual. The next district, Cusipata, Frolicsome or Pleasure Terrace suggests the merry harvest festival of the Taurus ritual. Next comes the Huaca Pata or Sacred Terrace, corresponding with the Huaca Puncu or Sacred Gate, the Gemini ward. The Coracora or "Wild Herbs" follows, corresponding with the Cancer ward, the Cantut Pata, named after the wild Cantua flower. The name also suggests the caracaracol, a native name given to the crab or other shell fish from Peru, at least as far north as Hayti. The Cuttle-fish eyes represent the sign Cancer on the Salcamayhua chart.

¹ These words were first identified by the late Colonel William S. Beebe, U. S. A. Printed sheets containing the list were distributed in 1894.

The Pucamarca or Red Place is next, suggesting both the tawny color of the puma, and the name Puma Marca or Puma Place which is the Leo ward. Opposite it still exists an ancient stone upon which pumas are figured. Following this comes the Accla Huasi or House of the Vestal Virgins. The remains of this edifice still exist in the district. The Virgo ward, with which this should correspond, is symbolically named the woman. The next district, known as the Amaru Cancha or Serpent Place, seems to have represented two signs, Libra and Scorpius. The Anonymous Jesuit says that in this district there was a temple to the sign Scorpius, represented by a serpent or dragon holding a scorpion in its mouth. Other writers tell of numerous serpents designed upon its walls, one group of which still survives over the doorway of the jail.

The Peruvians were acquainted with an asterism known as Machachuay, the Serpent, which name conceals that of Machay, a tomb or mummy. These names are readily referable to the Malqui or Mummy, as Salcamayhua calls Scorpius, as well as to the ritual of the month of the dead. It is quite evident, therefore, that this asterism should be identified with Scorpius or some neighboring constellation. Our own constellation of the Serpent, a bequest from prehistoric times, lies directly over the signs Libra and Scorpius. Part of it is figured by Saycamayhua as a stroke of lightning, an object regarded as a serpent in the mythology of almost every American nation or tribe. But the position of the Amaru Cancha indicates, as we shall see, that it was represented by another serpent asterism governing the sign Pisces. The Ama Cancha may have represented the asterism by its actual position, and the Machachuay or Libra-Scorpius asterism by its position with reference to the other districts.

The ninth or Sagittarius district is missing. The tenth district was known as the Cabra Cancha, evidently a corruption of Capra Cancha Place of the Beard referring to the bearded solar god, after whom the Capricornus festival of the Peruvian monthly ritual was named. The Aquarius district is also missing. It may have been represented by the marshy region along the Huatanay, which occupies an appropriate position and was overflowed during the month of the Mother of Waters, as the Peruvians, with good reason, called Aquarius. The twelfth and last of these districts

was the Golden Place, which Salcamayhua names as representing Pisces.

Let us now examine the course of the sacred Huatanay stream and we shall observe that the artificial channels through which it flows closely approximate to the course of the Milky Way over the southern sky. It enters the city between the Taurus and Gemini wards and leaves it through the Sagittarius ward, the Puma's Tail. This ward was so named from the resemblance which the dark portion of the sky enclosed within the converging arms of the Milky Way at this point, bears to the tail of a puma. This figure has been strikingly imitated in the course of the Huatanay and its sister stream, the Tulla, which have been brought to a junction in this ward. Turning to the linguistic evidence the name Huatanay is seen to be a corruption of huatana, a place in which something is tied up. The explanation probably is that the Milky Way, which forms an approximate diameter of the apparent solar course, was compared with the metal band or diameter dividing the circle of the anti-huatanas or sun circles, which the Peruvians used as gnomans. The sun crossed it twice annually, at the most important times, for agriculture, the beginning of the rainy and dry seasons, in November and May, respectively. The Milky Way is the Aymara Laccampu Hauira or Celestial River. The Amazon Indians still call it by this name. It is figured in the Libra Asterism of the Salcamayhua as a river flowing from sky to earth, accompanied by a bolt of lightning formed by the stars of Serpents.

Returning now to the Amaru Cancha, let us notice that it borders upon the Huatanay, near the centre of its course. At the corresponding point in the Milky Way there is a remarkably bright region which presents the figure of a serpent with striking accuracy. Its tail, which terminates in a rattle-like appendage, is located in Carina; thence its body sweeps in sinuous curves through the Southern Cross and portions of Centurus to its head in Musca. Muscae shines brightly in the position of its eye seen in profile, and its head and the upper portion of its body is bent back upon the rest, almost completely encircling the dark Coal Sack, which the Peruvians knew as the Egg. This association of the serpent and egg is interesting, in view of the prominent part enacted by these two objects, so often allied, in the symbolism of other continents. When below the pole the head of this celes-

tial serpent lies to the east and it seems to move backward across the sky. The Mexicans had a lizard asterism, Ytzlacolihqui, which was seen in the south and also moved backward.

The revolution of this celestial serpent around the southern pole could not fail to attract attention. Its head is but nine degrees north of the zone of perpetual apparition at Cuzco, and is, therefore, invisible for a brief period only, not long enough to interfere with easy and accurate observation. Half the time it was beyond the pole, coming east, half the time below it, moving west. The stars A and Y of the Southern Cross, contiguous to the Amaru, were used as pointers to indicate the position of the pole. Every such observation would bring to the eye the image of the revolution of the Amaru about that point. Moreover, the same stars marked the seasons and the time by night. Such facts indicate how naturally the serpent became the symbol of the year in Peru, sometimes as a single circular serpent, sometimes doubled and intertwined to represent the two seasons marked by the reversed positions of the Amaru.

It may well be that the Huascar dance, one of the most curious features of the Peruvian ritual, symbolized this revolution. At the beginning of the year an immense golden chain, the links of which were fashioned in the shape of two intertwined serpents, was brought out, and the dancers, taking hold of it, passed through the streets of Cuzco in a course imitating the movements of a mighty snake.

It is probable that every district, every square and every street in ancient Cuzco bore the name of some asterism or heavenly object, with which many or all of them corresponded in position. A number of these names remain unidentified. A few, like the poetically named street of the Rainbow Gate need none. From the evidence presented may we not deduce that the key-note of the reverence paid to Cuzco was based upon the concept that the plan of the sacred city had brought it into chorus with the celestial harmony, that it contained within itself some of the perfection of the celestial world. Understanding this, we apprehend that Cuzco was not, properly speaking, an epitome of the empire, but that the sacred city and the sacred empire were planned to be epitomes of the celestial world. This Peruvian symbolism is unique only in clearness of its meaning and the completeness of its details. The division of the Chinese Celestial Empire reveals

a similar analogy, so also the Egyptian and probably many others. The foundation of the Peruvian symbolism is based upon a remarkable philosophical concept which may be called the system of *mamas*. According to it all visible forms in the sky or on the earth are but the products of the spiritual prototype which gave them birth, and which exists invisibly in the sky. To this prototype they gave the name of *mama*, mother. Each object was believed to assume the form and to possess the characteristics of its *mama*, and because of this sympathy to remain under its influence, so that whatever affected the *mama* affected the visible object in like manner. The modern Amazu Indians still retain this doctrine. The similarity of this teaching to that of the Vedas and of Plato need only be referred to. To say that in Peru all features of the earth world were supposed to parallel those of the sky world, is but to state the concept in another form. It can readily be seen that the existence of this doctrine explains the attempt to imitate on earth the features of the sky world. The belief was that imitation produced harmony with the object imitated and thereby obtained for the imitator participation in the desired qualities and power of that object. Hence, upon the sacred city with its complete celestial symbolism of plan and of ritual was supposed to be poured a mighty stream of beneficent influence from the outer universe in which all its inhabitants participated, and which gave to the armies of the Inca that power which proved irresistible until it met a force unforeseeable and beyond experience.

About a Well-known Name Given by the Dutch when Exploring the Hudson River (the Catskill and the Catskill Mountains).

BY

L. C. VAN PANHUYS.

When we take the old charts before us of that part of North America where the Dutch established their colony, New Netherland, and we compare them with one of these times we can make out several names, given in the 17th century, which have been kept, sometimes even unchanged. Also, by the study of a new chart alone, several names will be discovered of which the Dutch origin is not doubtful. So we trace, for instance, the south and north capes at the mouth of the Delaware, kaap Hinlopen and kaap May¹ as cape Henlopen and cape May, we meet Barnegat, Zandhoek, now Sandy Hook, Staten Eiland (Staten Island), Breukelen as Brooklyn, Lang Eiland as Long Island, Nieuw Utrecht, Haarlem, Vlissingen (Flushing), Westersveld (Westfield), Roo Eiland (Rhode Island), Adriaen Block or Blok Eiland (Block Island),² Rondout, Rhinebeek, Wortendyke, Bergen, Pavonia (called after the Burgomaster of Amsterdam, Adriaan Pauw, D. C. L.), Jonkers, Cortlandt, Bergen, de Witts Point, Hasbrouck Heights, and not to forget, the several kills or streams, as Kill van Kull, Spuyten Duyvil (Dutch: spyt den Duyvel), Corlaars Kill, Platte Kill, Tienekill, Kaaterskill and Catskill, the last called in the description of Adriaen van der Donck, 1655, Katskill as well as Catskill.

It may be mentioned that the word kill (kil) is pure Dutch, it has generally the meaning of a sea channel or narrow, and also (but I believe only in the province of Zeeland) of a creek.

¹ May was probably the superintendent, sent out by the Admiralty of Amsterdam in 1611 to Nova Francia.

² Near Nantucket. Adr. Block was the captian who built in America about 1614 the well-known small yacht, called the Onrust.

Those who make a trip on a steamer from Rotterdam to Dordrecht will pass the Dordtsche "Kil."

The derivation of the name Catskill seems at first ("cats") very easy, and it is generally accepted that with "cats" there can be only meant the plural of the name of that mammifer, whose musical efforts were, before the invention of the sky-scrapers, a special blessing to the happy town-inhabitants, living near and under the roofs.

For a Dutchmen, however, and as the name is given by their ancestors, they have right to a voice in the chorus, the combination of the name is not so clear. If a Dutchman, now or in the 17th century, were to speak of a "kill" where cats lived, he would call it "katten kill," perhaps "katte kill," or "catte kill," but never "kats kill."

It must be further observed that for the name Cats kill, the pronunciation Caatskill has remained in use.

Without giving a decided judgment, I will point out, however, the possibility that the kill (and afterwards the mountains) received its name from a Dutchman, Jacob Cats, who was born in 1577 at Brouwershaven, lived from 1603 to 1623 at Middelburg, in the house formerly occupied by the famous merchant Balthazar de Moucheron, was a house companion and a friend of his brother, Pieter de Moucheron, was in 1621 appointed "Pensionaris" of the town, in 1623 at Dordrecht, and occupied in 1636 the high position of Raadpensionaris. By his books he became a favorite popular in the Netherlands, and, perhaps, for a century, and still longer, the poems of "Father Cats" were kept together, and set near the great family Bible. When we see the different names on the chart in the "Korte beschryving van de ontwikkeling ne der verdere lotgevallen van Nieuw-Nederland" (brief description of the development and the further fate of New Netherland), by N. C. Lambrechtsen van Ritthem, D. C. L., 1818, then we see the probability that several names in the Hudson, as: Marten Gerritzoon eiland, Jan de Witt eiland, might have been given in honor of the seamen or of their patrons.

I suppose that this may have been the case with the name of the stream and the mountains which are now so often visited by the inhabitants of the city, who, in several names, and even in some words in their language have kept alive the memory of its first foundation.

A Communication of the Curacao Society for History, Language and Ethnology in the Dutch West Indies about the Grave of Columbus.

BY

L. C. VAN PANHUYS.

In 1897 the above-named Society was established at Willemstad, island Curaçao. It consists of about eighty members, and every year a report is published containing valuable contributions, chiefly about the early history of the Dutch islands. For those who may wish to enter into relation with the Society I will add the name of the Secretary, Mr. J. H. J. Hamelberg.

In the fifth annual report, published at Amsterdam, by J. H. de Bussy, 1901, an interesting article is given by Mr. V. M. Zwysen, Director of the Roman Catholic College Santo Thomas at Willemstad, entitled: "Het graf van Columbus" (The grave of Columbus).

The author describes how he saw at Santo Domingo (the old Hispaniola of Columbus) the old palace, built by Columbus' brother, Don Diego, now in a state of utter neglect, and how he was shown the spot where Alonso de Ojeda, the discoverer of Curaçao, was buried. But for those who are interested in the subject it will be of much importance to read how the author, going to Santo Domingo with the idea that it could not be true, became, by his researches, convinced that it is at Santo Domingo and at no other place that the bones of Columbus are resting. I think the following short extract from Mr. Zwysen's article will excite their interest.

The author remarks that Columbus' remains were brought over from Valladolid to the cloister "De las Cuevas" at Sevilla in 1513; from there, in 1530, with the remains of Don Diego, they were buried in the Cathedral at *Hispaniola* in 1540 in two sepa-

rated graves. For this the authority of Herrera, Alcedo and Navarrete is also given. In 1795, when the island was ceded by Spain to France, Don Gabriel Aristizábal, exhumed what was then thought to be the remains of Columbus, which he transported hastily to La Habana. But in 1877, when the Cathedral at Santa Domingo was repaired, a grave was accidentally found containing a small leaden chest with the inscription of El amirante Don Luis (Columbus' grandson), and this led to the finding of the grave of Don Ramirez, Captain-General of the island, who died in 1811, to the recovery of the empty grave where the Spaniards had exhumed their pretended treasury in 1795, and, with the utmost precaution, to the finding of a cellar, in which, in presence of the Bishop and many authorities, a small leaden chest was discovered, bearing inscriptions outside and inside, which may, with a small engraved silver plate found in the coffin, put an end to all doubt. Mr. Zwysen adds reproductions of chest and inscriptions to his article.

The Spaniards, however, became excited at the news; the Spanish Consul who had, together with the other Consuls and authorities, signed the act, made when the chest was found, was dismissed, and the "Real Academia" at Madrid called the affair a humbug, but failed to give proofs. The report, however, made the Spaniards believe that they were in possession of Columbus' remains, and when, in 1898, Cuba was lost to Spain, one of the first cares of the Spanish government was to transport the relics they had at La Habana to Spain, where they were placed at Sevilla under the direction of the Duke of Veragua, one of Columbus' descendants. For Mr. Zwysen, however, an impartial scholar and a cool Dutchman, there is no doubt that Santo Domingo is in possession of the relics of the great man, who requested so earnestly in his will to rest and to await the day of judgment in the land of his dear Hispaniola.

Danni Dipaa.¹

POR

ABRAHAM CASTELLANOS.

Situacion.—A la llegada de los españoles, los indios mixtecas ocupaban militarmente el “Danni Dipaa.”

El “Danni Dipaa” es un contrafuerte de la sierra de la Mixteca que se desprende de ésta hacia el E. y que separa los valles de Etna y Zimatlán, comunicándolos por estrechas depresiones al occidente de Azompa.

La Ciudad de Oaxaca está á sus faldas, separada solamente por las aguas de río Atoyac, que viniendo del valle de Etna, se pierde hacia el Sur, en dirección del Océano Pacífico.

Excursiones.—Finalizaba el año de 1891, cuando el que esto escribe, llegó al suelo de Oaxaca, procedente del Estado de Veracruz, ávido de leyendas y deseoso de visitar los restos de la antigua cultura de los indios; y á principios de 1892, había dado en la meta, encontrando un centro arqueológico fecundo; pobre, es cierto, en objetos de arte antiguo, pero rico en monumentos para la historia y sociología de los pueblos que habitaron esta comarca. Pronto, acompañado de los amantes de la ciencia antigua, el Lic. Francisco Belmar, como laborioso lingüista de los idiomas indígenas del Estado; el Dr. Fernando Sologuren, coleccionador notable, que actualmente posée uno de los más interesantes museos arqueológicos de la República y del Sr. Manuel Martínez Gracida, aplicado historiógrafo de las razas autóctonas, se organizaron frecuentes excursiones dominicales, comenzando por ampliar y seguir adelante las excavaciones en el punto denominado “Danza de Moctezuma,” cuyos primeros dibujos tomó Dupaix, entre otros excursionistas. En este estado de cosas, llegó el distinguido arqueólogo alemán, Sr. Eduardo Seler, organizándose con este motivo una completa excursión el 30 de Diciembre de 1895.

Descripcion General.—Saliendo de Oaxaca, al occidente, se pasa el río Atoyac, que corre de N. á S. A la margen derecha está

¹ “El cerro fortificado” (zapoteca).

situado el pueblo de San Martín (ant. Mexicápam) y dos kilómetros más al occidente, por una pequeña, cuesta, se ve culebreando el camino que conduce al más alto crestón del monte, que en lengua mixteca se llama: *Cuihtitùhmí*¹ ó sea, "mogote del plumaje" que, en efecto, por su forma cónica coronada en la cumbre por rocas acantiladas y por los restos de una fortificación antigua y la vegetación, le da todo el aspecto el de un magestuoso airón de los que usaban los antiguos indios. Desde "El Plumaje," á 1737 metros sobre el nivel del mar, se contempla un hermoso paisaje.

Al Oriente, los cerros encadenados "La Coronita," "Piedra Gorda," cerro de San Martín y cerro de San Juan Chapultepec, en cuya falda oriental y frente á Xoxo, corre mansamente el río Atoyac, dejando á un lado del camino, la última fortificación india, "El Paraguito," semejante á "La Letra," que la tradición lo considera como lugar sagrado, y de tal modo, que por uno de esos sentimientos que no se borran en la raza, los indios de Xoxo, conservan y podan anualmente una antiquísima acacia en el lugar, recuerdo de los últimos acontecimientos que sacudieron á la civilización india, para caer bajo el yugo rapaz de los hispanos.

Al Sur del "Plumaje," á medio kilómetro, se levanta magestuosa la gran fortificación á la que llega el viajero caminando sobre la cumbre de la colina, y contemplando: á la derecha, el declive pronunciado del terreno en forma de concha; á la izquierda, la entrada del valle de Zimatlán, y al frente la meseta del sol, los monumentos arqueológicos; pero antes de llegar á estos puntos, hay dos lugares, uno de los cuales es el notable: "La Letra."

"Los indios le llaman á este lugar "La Letra," porque afecta una forma geométrica regular, semejando una E, y como el indio es ignorante en general, todo aquello en que ve una regularidad geométrica, le nombra *letra*. Sin duda de esto le viene su nombre actual. El indio del lugar, último resto de la raza mixteca, no sabe más, es preciso adivinarlo todo.

"La letra está formada por dos terrazas piramidales casi completas, por una tercera destruida en un espacio cuadro como de 25 metros por lado. En el centro de la pequeña plazoleta se ve un montón de piedras.

Qué significa este singular juego de pirámides truncadas? Sin duda que fué una fortificación pasajera, lugar de avanzadas

¹ Dialecto de Xoxo.

de guerreros; y esto se presume inmediatamente, porque son idénticas las construcciones que aparacen en los puntos estratégicos más importantes de la serie de colinas que forman "El Danni Dipàa," partiendo de la falda á la cumbre. Además, en el valle de Etlá, cerca del lugar donde se levantaba el antiguo santuario indígena (Las Peñas) hay idénticas construcciones perfectamente conservadas, trabajos de los antiguos mixtecas, que sin duda fueron levantadas para proteger á la población y al santuario de las frecuentes incursiones Aztecas en su paso para el valle de Oaxaca y Tehuantepec; inútiles parapetos para la guerra moderna, fueron imponentes construcciones para la edad de la macana y el sílex. En ellos se defendía el honor, la religión, el pueblo y los dioses. Los embajadores indios, siempre llevaron la consigna de sus soberanos: "*Averiguad cuáles son sus armas, y dónde están sus dioses protectores.*"

Semejantes á los griegos en el progreso singular de las religiones, también tenían sus Héctores y sus Aquiles. También los dioses de su Olimpo descendían en el momento reñido del combate, disputándose palmo á palmo el espacio, mientras los hombres en la tierra defendían desesperadamente el suelo de la patria. Las pirámides trucadas fueron las poderosas trincheras y el montón de piedras que se observa en el centro de tales fortificaciones de esta especie, son los restos de un altar, donde el supremo sacerdote, á semejanza del divino Tiresias, ofrecía en holocausto el corazón de las víctimas.

Las fuerzas enemigas tenían que subir por pendientes escarpadas, sacrificando muchos hombres en la ascensión; pero llegadas al pié de las fortificaciones piramidales, entonces se trababa un combate brazo á brazo. El silbar de la bala de piedra, el golpe de la maza y el choque de las macanas, formaban un espectáculo atroz, en medio de una horrible gritería. Algunos, esquivando los golpes, llegan á la parte más peligrosa, y un grito de júbilo resuena. El soldado enemigo, prisionero, con el gesto de la rabia y la muerte, cae en el altar de los dioses y el sacerdote le arranca el corazón.

Este era el objeto de ese monumento. Esta fué "La Letra."
*El Dolmen.*¹—Parece haber sido un edificio antiguo. El Dr.

¹ Los indios actuales de Xoxo, resto de los mixtecas avanzados de la antigua nación, cuentan que muchos pastores han visto salir de este lugar un bulto (el espíritu del mal) que recorre violentamente los mogotes sin dar la cara, y que vuelve al punto de partida. Otra leyenda afirma, que una mujer, todas las noches poco depues de las doce, baja del cerro y llora tristemente

Sologuren, en una de nuestras excursiones, por semejanza con los altares drúidicos, bautizó este monumento con el nombre de "El Dolmen." Dos piedras prismáticas sostienen otra enorme de basalto, aproximadamente de $3\frac{1}{2}$ de largo, $1\frac{1}{2}$ de ancho o'40 de grueso. La piedra principal fué rota por los indios al trazar una línea divisoria. En la parte superior tiene grabado un bajo relieve, que simula un mono con la cabeza al Norte. Cerca, otro monolito completo y varios fragmentos que indican un antiguo edificio. Entre "El Dolmen" y "La Letra" hay una meseta interrumpida por ligeras ondulaciones artificiales, que son atrinchamientos escalonados que bajan hasta las faldas del cerro.

*Kèhyik-anyí*¹ (mesa de sol).—En un espacio como de ocho hectaras cuadradas aproximadamente, existen los grandes monumentos sobre la planicie que en el dialecto de Xoxo se le llama "La Mesa del Sol." Estos monumentos son:

Al N., la "Gran Pirámide de 180 metros de largo, 140 de ancho y 10 de altura. En el centro, la preciosa meseta de 230 metros de anchura por 280 de largo, con cuatro terrazas paralelas de N. á S., interrumpidas á distancias. Al S., la pequeña pirámide de base cuadrada de 100 metros por lado, y que describiremos por su orden.

La Gran Pirámide ó el Templo del Sol.—Esta pirámide contiene: un patio como de 1225 metros cuadrados de superficie, bajo el nivel de la parte superior y al mismo nivel de la meseta. En el centro, construido de argamasa se ven los restos de un altar.

En la parte superior de la pirámide, un patio con los restos de un altar en el centro. A los lados del altar, dos restos de columnas basálticas, como las que se encuentran en Mitla, y que acusan la existencia de algún edificio.

Pirámides regulares, truncadas, de 10 metros de altura y que forman un verdadero laberinto.

Planicie del Sol, contiene.—Las terrazas paralelas cuyo objeto se ignora. Tienen un hueco en forma de bóveda triangular y lleno de tierra. Probablemente una vez quitada la tierra, siguiendo las galerías, se puede descubrir el objeto de ellas. Quede junto al río Atoyac, que despues huye del lugar, asciende acrecentando sus lamentos, en tanto que los campesinos, atemorizados, imploran a sus dioses para no oír al alma en pena. Al fin un grito estridente, prolongado y melancólico, suena alla en la cumbre y todo vuelve a quedar en silencio sepulcral. Esta es la tradicion de la princessa Donaji.

¹ En el dialecto corrompido de Xoxo *Kèhyik* as: mesa y *Auyi* sol; pero en el mixteco puro de Tilantongo significa "donde se oculta el sol? *dèdo ké Sandi*? y mesa del sol se dice *Yodo nucgdiu* que significa llano sobre cerro.

reservado este descubrimiento á mi amigo Marshall H. Saville, infatigable explorados de esta región.¹

El sitio conocido por los indios por "La Danza de Moctezuma," es el mismo lugar en que han tomado sus dibujos algunos exploradores, y en el que el autor, en compañía de los Sres. Belmar, Sologuren y Martínez Gracida, siguieron descubriendo varias piedras grabadas. La última exploración la hicieron en compañía del Dr. Seler y señora.

(a) Bajo-relieve que representa un diamante.

(b) Bajo-relieve, el más interesante de los descubiertos. La piedra actualmente está rota. En la parte superior izquierda tiene grabado un signo ideográfico. Tal vez no un nombre. Parece ser el signo *tlalli* (tierra blanca) ideógrafo de *yancuic* (cosa nueva); el cuadrete de la parte superior y la posposición *pan*, en, sobre, inmediatamente parece el signo *tezcatl* (espejo) y se repite á la izquierda el signo *tlalli*.

Si es posible esta etimología se pudiera interpretar: "En tierra nueva (conquistada) y blanca donde hay espejos para mirarse."

(c) Figura destruída.

(d) Figura que lleva una ofrenda en la mano derecha y casca-beles en los piés.

(e) Dazante.

(f) Figura que representa un hombre en cuclillas con una gran trenza que toca al suelo.

En el interior siguen grabadas otras figuras no menos interesantes, esculpidas en las lozas pequeñas que forman parte de la bóveda triangular.

Si la tradición tiene algo de verdad y si estas figuras esculpidas son aztecas, entonces está descubierta la primera página del enigma. Uno de los objetos de las terracerías era guardar de una manera indestructible las páginas de la historia de los pueblos conquistadores. Y esto explicaría entonces, la destrucción parcial de los monumentos.

La Pequeña Pirámide.—Sobre la pequeña pirámide de 10,000 metros cuadrados por base, hay otras dos interesantes. La primera se eleva del lado occidental y está horadada de Norte á Sur en una distancia de 36 metros. La segunda ocupa el lado sur oriental y se encuentra horadada también pero las galerías tres de las que están cubiertas al presente, por las piedras y tierra

¹ En estos días, el Sr. Leopoldo Batres hace los descubrimientos.

desprendidas de la parte superior, se reúnen hacia el centro donde existe á la manera de pozo, una amplia extensión que termina en la cima del monumento. Parece haber sido algún templo ó adoratorio. Es probable que estuviera dedicado á la Luna. Al Sur siguen unas terracerías sobre la planicie del cerro, y que van á dar hácia el camino amplio que sirve de bajada al cerro, en dirección de Zaachila.

Consideraciones Generales.—El Danni Dipaa fué un punto de gran fortificación, y á la vez el asiento de un poderoso pueblo, cuyas casas y sepuleros abarcaban todo el contrafuerte hasta las orillas del Río Atoyac, frente á Xoxo. Esto se comprueba por las riquezas arqueológicas consistentes primero en cabezitas de ídolos de razas diferentes que se caracterizan por los rasgos fisonómicos totalmente diversos, que acusan la heterogeneidad de escuela; segundo, por las pequeñas planicies sucesivas, escalonando el cerro por todas partes, y por los restos humanos esparcidos en todas direcciones; pero qué pueblo fué éste en la antigüedad? ahí está el *quid* de la cuestión. Como opinión verbal, Mr. Saville opina que fué la antigua Zaachila y esto puede ser, pero no hay datos suficientes para afirmarlo. Lo único que sabemos, es que fué un punto muy disputado entre zapotecas y mixtecas, cuya última página fué trágica y heroica, como se verá al fin de esta relación.

La nación mixtec avanzó en sus límites en extensión marcada entre Etla y Monte Albán y de aquí á Cuilápam, siguiendo rumbo al Sur, y para la defensa de esta gran extensión debió existir un gran antro de operaciones, y este centro era el Danni Dipaa.

Todo atestigua que en la pirámide grande ó templo del sol, hubo cuantiosos edificios, cuyos últimos restos se hallan esparcidos y ocultos entre la maleza, ó descubiertos como los dos restos de columnas. Presumimos que estos edificios estuvieron construídos en la parte superior de las pequeñas pirámides, donde se encontraban ocultos los dioses protectores, punto objetivo y necesario en las conquistas de los guerreros. Esto se comprueba con los últimos recuerdos históricos zapoteco-mixtecas y cuyos hechos se perpetuarán en la leyenda y en la historia.

Narraciones.—Era el año de 1519. En el trono zapoteca gobernaba el famoso capitán Cosijoeza, nombre que en lengua india justificó el valor de su brazo y el poder de su autoridad. Cosijoeza es la corrupción española de tres voces.

Cashülli, trueno, rayo.

Shu, temblor.

Sáhà, nube.

Que pudiéramos traducir; "El trueno del cielo," *cashihosàhà*, por cambio fonético y contracción filológica, y que los españoles siguiendo su herencia de metamorfosis lingüista, pronunciaron *cosijoeza*.

El rey tenía una hija de particular hermosura. Color apiñonado, ojos grandes, penetrantes y negros; una india ideal de lacia cabellera, envidia del azabache. A su aspecto físico añadía un gran corazón donde ardía el fuego de la patria y el sincero y desinteresado cariño para su raza. Llevaba el nombre de *donají* que significa "alma grande" como en efecto lo era. Fué notable por su nobleza, por su hermosura, por su talento, por sus sentimientos y por su heroicidad.

Descendía de la nobleza mexicana. Su madre había sido la hija preferida de Ahuizotl, el poderoso monarca que quiso sojuzgar á la zapoteca, encontrando una muralla de corazones, y un valor hijo del salvajismo de la época. El padre fué un indio puro de la nobleza zapoteca enérgico, decidido y feroz, de tal modo, que en los valles, en la sierra y en los lejanos reinos, pronunciaban su nombre con respeto, y rendían vasallaje los pueblos más remotes de sus dominios. Solamente tenían unos rivales; los mixtecas, hermanos sin duda en generaciones pasadas, y enemigos, cuando los pueblos saliendo de la barbarie se encontraron dos poderosos Estados. El uno, en los alegres valles, bajo un cielo siempre azul, en medio de una vegetación vigorosa, alimentada por los lagos. El otro allá con su centro principal colocado en los picachos más altos de occidente, donde las cumbres de las montañas parecen tocar con sus crestones la bóveda celeste. El rey de este pueblo era *Dzahuindanda*.

Cashihosá envió una embajada al rey mixteca fiado en la respetabilidad de su nombre y fama, para que los mixtecas abandonaran la colonia de *Sahayuco* (Cuilápam) defendida por los contrafuertes del cerro fortificado, contra las invasiones zapotecas. El rey zapoteca al recibir una negativa, mandó un fuerte destacamento de tropas que arrazó la colonia de Sahayuco, cuyos habitantes indignados por el malévolo procedimiento, apoyados por las tropas del Albán se arrojaron sobre las tropas zapotecas, derroándolas completamente. Cuenta la tradición que el Jefe de las

tropas zapotecas, cayó prisionero en el combate y fué colgado de la rama de un árbol, para escarmiento de los que intentaran contra el poder mixteco.

El rey de Zaachila sufrió esta afrenta, y no considerándose fuerte para batir á los mixtecas, esperó á que los españoles acabaran con la guerra de México, para pedir auxilio y atacar á los mixtecas en sus posesiones. En efecto, apenas había vencido Hernán Cortés, cuando el rey zapoteco y su hijo Cosijopi, rey entonces de Tehuantepec, hicieron alianza con el extranjero para vengarse de sus enemigos; pero éstos mirando la falta de patriotismo, y considerándose fuertes, atacaron la capital del reino obligando á los zapotecas á abandonar la población, y á fortificarse en el cerro cónico que se mira al Sur de Oaxaca, conocido con el nombre de "La Tela," perteneciente al pueblo de Santa Ana Zegache.

Las conquistas mixtecas se extendieron rápidamente por todo el valle, y pusieron riguroso sitio al orgulloso rey en sus fuertes posiciones. En combinación con los mixtecas al frente de *Casandoo* rey de *Tututepec* apoyaban con sus fuerzas el sitio, deteniendo á Cosijopi que marchaba en auxilio de su padre. En tan difíciles circunstancias corría el año de 1521.

Dos meses después de la toma de México, Hernán Cortés recibe una embajada. Los indios, lujosamente vestidos llevan presentes de oro y plata; preciosas plumas y telas. Estos indios en nombre de su rey apelaban al poder de las armas españolas para saciar su vengaza. Cortés que vió en esta embajada una conquista pacífica, envió desde Coyoacán á Don Francisco Orozco, el 30 de Octubre de 1521, con 30 caballos, 80 infantes y numerosos indios aliados. Orozco sostuvo tres combates en las sierras mixtecas antes de penetrar al valle de Oaxaca, y el 25 de Noviembre hizo alto en las faldas orientales del Danni Dipáa. Allí el sacerdote Juan Díaz dijo la primera misa (en un lugar marcado al presente con un mohonero) con gran sorpresa del pueblo indio, que desde la cumbre del cerro, veía el grupo misterioso de los hijos del sol, cuyo poder y valor eran comentados de mil modos, como legítimos herederos del rayo de los cielos.

Orozco, una vez que se hubo apoderado de Huaxyacac, intimó rendición á los mixtecas y zapotecas para que cesara la guerra.

Los altivos mixtecas respondieron á la amenaza con un armisticio, y la integridad de la nación de *Dzahuindanda*.

La princesa Donaji.—Para garantizar la paz, los mixtecos exigieron de los zaachileños, que la princesa más hermosa del reino, pasara en rehenes á las fortificaciones del Albán, y que en caso de que los zapotecas intentaran de nuevo romper las hostilidades, dispondrían de la princesa, ofreciéndola en sacrificio á sus dioses. La proposición fué aceptada, y mientras los españoles, se preparaban para atraerse aliados, y simpatías de los indios, la princesa Donaji caminaba con su cortejo fúnebre á la cumbre del *Danni Dipàa*, último lugar desde donde la heroína, debía respirar el aire de su patri!

Todas las mañanas al levantarse el sol, las bandas guerreras al eco estridente de los caracoles, despertaban á la princesa en el regio alcazar (probablemente en la gran pirámide) y después de recorrer los puntos fortificados cercanos, los ciudadanos águerreros se dirigían á los valles y cañadas á cuidar de sus propiedades y sembrados. En la tarde, todo el pueblo se retira á sus chozas. Solamente el sonido del teponaxtle, suena de tiempo en tiempo significando el "alerta" del pueblo cerca del campo enemigo. La luz de la alborada vuelve á iluminar el horizonte; los caracoles anuncian la presencia del astro-rey; los intérpretes de las voluntades divinas ofrecen algún sacrificio, y la princesa *Donaji* pasea con sus nobles amigas mirando con tristeza, que su desdichada patria antes próspera y rica, yace humillada ante las dobles cadenas de los hijos de Castilla y bajo la tutela del poderoso *Dzanhuindanda*.

Qué alma generosa, abnegada y grande no intenta romper las cadenas opresoras? Oh Prometeo! Tu luchaste contra el poder de los dioses! ¡Oh Princesa, mil veces hermosa! Tu luchaste contra el poder de los tiranos! Es cierto. Todo lo tienes. Honores, lujo, música y mansión; pero de qué sirve todo esto si la patria es esclava, si el nombre del zapoteca ya no resonará en el mundo como en mejores tiempos, cuando el hijo del rayo paseaba sus estandartes vencedores por las selvas de este porción americana!

Estas reflexiones, obligaron á Donaji á sacudir el yugo. Hermosa doncella que no pudo atravesar el Rubicón!

Todos los días las cortesanas del valle subían á visitar á su princesa, llevándole frescas flores en señal de cariño y de obediencia. Qué se decían? El corazón de la mujer es un abismo.

Solamente se conocen los efectos, como las explosiones volcánicas, cuando lanzan sus lenguas de fuego al infinito.

Dice la tradición que la noble india, mirando la humillación de su pueblo no cesaba de incitar la cólera del padre. Cada visita de confianza, era una mensajera al trono perdida de su padre, subyugado á un pequenísimo núcleo de hijos del sol, que podía haber desbaratado con un millar de hombres aguerridos. Por otra parte, el rey mixteca, respetado por sus antiguos é irreconciliables enemigos. Como soportar bales cadenas!

El hijo del rayo reflexionó un monumento, no para atacar á sus huéspedes porque esto era contrario al mandato de los dioses y al cumplimiento de los oráculos; pero sí, para romper lanzas con su rival histórico, rescatar á la princesa, restablecer al antiguo poderío, y gobernar en nombre del rey de España.

La señal convenida para el asalto de la fortaleza, era una flecha lanzada por diestro cazador en medio de las tinieblas, y que iría á estrellar su dardo en el muro interior de la prisión. El guerrero subiría con todas las precauciones. *Donají* estaría en vela.

Una noche, avanzando por le camino de Zaachila, millares de hombres escalan la fortaleza; entra veloz el dardo por la puerta de la regia mansión, *Donají* se arroja sobre sus guardias y huye entre la negrura de la noche. Maldiciones y gritos, el golpe seco de la macana y el silvar de las flechas, es lo que se escucha solamente. Los mixtecas huyen y los soldados del valle son los soberanos del monte; pero *Donají* ¿que fué de ella? Nadie lo sabe. Lo único que se recuerda es que los mixtecas se replegaron á "La Letra" al "Plumaje" ocupando las colinas fortificadas "La Coronita," el cerro de San Martín, el de San Juan hasta el último reducto á la orilla del Atoyac conocido por "El Paragüito."

Al otro día, todo estaba en paz. La avanzada mixteca, en Xoxo; la colonia de Cuilápam sobre-saltada, y la princesa *Donají* perdida.

Refiere la leyenda que las indias de Zaachila, que recorrían diariamente el camino entre su pueblo y Huaxacac, una mañana al levantarse el sol, vieron cerca del río brotar de la tierra misteriosa planta. Se detienen asombradas ante el prodigio. La planta crece por momentos, y al fin, se abre lozano, saludando al astro-rey la corola morada de un hermoso lirio. Las indias corren llevando lo buena nueva. Acunden, el ex-rey, sacerdotes y ancianos y contemplan la flor en toda su pureza. Remueven la

tierra, y ¡oh sorpresa! La cabeza de la virgen, intacta, hermosa y bella como en los mejores días de su vida, y más hermosa aún, con la aureola de la gloria simbolizada en el lirio que surge de su cráneo.

¡Oh heroína! un descendiente de aquella raza de tus enemigos, cuántas veces, sobre el altar en que fuisteis sacrificada, ha llegado á regar sus flores!

Ahí, junto á la vieja planta de "El Paragüito" acabó tu vida terrenal; pero ahí mismo, como una protesta contra la opresión, se levanta tu imagen sacrosanta; lloras todas las noches á la orilla del río, según la historia legendaria, huyes desesperada por el cerro; vaga tu espíritu por las sombras del "Danni Dipàa" (cerro fortificado) como el espíritu maligno; perono princesa, que eres la silueta de la libertad que arde aún en el corazón de nuestra vieja patria!

Contribution a l'étude du mot Kecku ou Titicoca ou Titikaka.

PAR

LEON DOUAY.

Peu de noms géographiques ou historiques, ont eu plus d'étymologies différentes que celui de cette île, où, selon les traditions incassiques, apparut le soleil.

Nous même, en outre du dicton ; "il n'y a que l'homme absurde qui ne change jamais," nous avons émis des opinions successives qui, naturellement, se contredisent en tout ou en partie.

Dès l'abord, nous n'avions pu admettre que le Kéchua littéral *titi*, "plomb" ou *titi* "tigre"?) et *cakca* "rocher" donna, la signification du nom de ce lieu considéré comme sacré (guaco) par les anciens péruviens.

Nous avons préféré une interprétation de *titi*, ne s'appuyant pas très solidement sur la langue, et signifiant *inti* "soleil."¹

Au congrès des américanistes de Paris, on est venu donner la signification de ce mot d'après le japonais : "père," mère"; si elle était exacte, il faudrait supposer que la langue du japon ait laissé des traces dans celle des anciens péruviens.²

D'après nous, *titicaca* ne pouvait signifier à la fois père et mère, car ces appellations ne pourraient s'appliquer toutes deux à l'île du soleil (du père). En effet, l'île voisine s'appelle *Coati* dont nous avons donné l'étymologie, Kéchua *Kon* "Dieu" (maya *Ku*) et *ati*, "lune," c'est-à-dire la déesse lune [la mère).

Dans notre seconde interprétation, nous avions traduit *ti* et *ti* par le maya *tich* "élevé," présenté devant les yeux ("racine de tichib," apparition, et *ti* "lieu,"³ mais en laissant à *Cakca* le sens

¹ Voir nos "Études étymologiques sur l'antiquité américaine," page 99.

² Voir ailleurs notre mémoire sur la non-patented des langues de l'Ancien et du Nouveau Monde.

³ Même signification en Kéchua.

kechua de rocker. Nous sommes persuadé anjourd hin qu'il¹ faut traduire le dernier mot par le yucatique *kak*, "feu," et *cah* "terre," c'est-à-dire interpréter le tout par:" lieu de l'apparition; terre de feu, ou lieu de l'apparition du feu de la terre.

¹ Le maye *cacab* a une signification analogue. Voir nos: Nouvelles recherches philologiques sur l'antiquité américaine. page 156.

De la non-parenté de certaines langues de l'Ancien Monde (en particulier du japonais) avec celles du Nou- veau, et spécialement, du groupe Maya.

PAR

LEON DOUAY.

Avant de faire des recherches sur la parenté des langues de l'ancien et du Nouveau Monde, il nous paraîtrait désirable d'examiner d'abord si tous les idiomes américains ont, ou n'ont pas, un tronc commun. Quand la lexicologie ne donnera pas de résultats probants, il faudra alors en appeler à l'examen comparé pour lequel on ne saurait nous accuser d'enthousiasme exagéré, car nous sommes persuadé qu'il n'a joué qu'un rôle effacé dans la parenté de certaines langues américaines dont nous avons étudié et établi les affinités lexicologiques, c'est-à-dire la famille maya quiché, le paoz, le chibcha, le kechua, l'aymara, l'araucanien et le haïtien.¹

En effet, si leurs lexiques n'ont parfois varié que dans une certaine mesure, leurs grammaires présentent des différences un peu plus profondes.

Quand les langues américaines auraient été ramenées à un certain nombre de souches, on pourrait alors leur chercher, avec plus de certitude, des parents hors du Nouveau Monde en ne notant les affinités que dans un seul groupe de dialectes, car il nous paraît peu rationnel de rapprocher des idiomes de familles différentes.

On édifierait ainsi en commençant par les fondations au lieu de le faire en essayant d'abord de construire le haut de l'édifice.

Sans doute beaucoup de lettres ont permuté dans toutes les langues, mais ces permutations dans les idiomes américains

¹ Nous n'avons encore pu publier qu'une partie de ces travaux.

doivent avoir souvent un caractère presque constant pour qu'on puisse s'appuyer sur elles.

La vieille forme monosyllabique se retrouvant souvent sous l'agglutination, il est alors facile de retrouver les racines, surtout dans certaines langues comme le Maya, qui nous paraît avoir joué, vis-à-vis de certains dialectes américains, le même rôle que le sanscrit vis-à-vis des langues indo-européennes.

Il est probable qu'il y a en Amérique, ce que Mr. de Charencey a appelé pittoresquement, des mulets linguistiques; le mélange des races aura amené le mélange des langues.

Si on admet que l'Amérique a été peuplée à l'époque quaternaire et même pliocène, la parenté des langues américaines avec celles de l'Ancien Monde impliquera d'autres questions très importantes.

De tous les peuples les japonais sont celui qui, par certaines apparences physiques, rappelle le plus les américains. Comme ces derniers il parle une langue agglomérante. En outre la situation géographique du Japon en fait presque un voisin du Nouveau-Monde.

Nous avons donc pensé qu'il y aurait un certain intérêt à chercher s'il y avait une parenté lexicologique entre le japonais et certaines langues américaines que nous avons rattachées au groupe maya.

Certains noms de divinités bouddhiques,¹ Kouan-gin,² Kouei-sing, etc., dont la syllabe initiale correspond au maya Ku "Dieu," nous avait fait d'abord soupçonner qu'il pouvait y avoir une parenté entre le japonais et le yucatèque.

Il y a déjà quelques années nous avons eu l'occasion et l'honneur de faire la connaissance de M. le Baron Nishi (ministre japonais pendant le siège de Pékin), et nous lui avons soumis notre travail sur les affinités du maya et du Kechua,³ en lui demandant de vouloir bien nous donner son avis sur la parenté possible de ces deux langues et du japonais. Après examen, l'éminent diplomate nous a assuré que cette parenté n'existe pas.

Depuis, comme on est revenu sur cette question, nous avons étudié les radicaux japonais qui, nous pouvons l'affirmer, n'ont aucune espèce de parenté avec les monosyllabes mayas.

¹ On sait que le bouddhisme est la dernière venue des religions au Japon.

² Le maya *Ku*, "Dieu" et "*an*" "qui aide," donnerait une étymologie séduisante au japonais *Couru*, *Kizan*, "charge digne."

³ Voir l'appendice à nos "Études Étymologiques sur l'antiquité américaine."

On désigne sous le nom Kipo, les cordelettes qui ont précédé l'actuel système graphiques des Célestes. D'après un éminent sinologue que nous avons consulté, ce mot n'est pas chinois et il est probable qu'il a été emprunté au Kechua. Un examen fort superficiel, c'est vrai, des racines chinoises et mayas, nous a conduit à douter beaucoup de la parenté de ces deux langues.

Un travail analogue sur la langue des Guanches ne nous a donné, également, que des résultats négatifs.

Tomoanchan und andere Bezeichnungen des Westens zur Erde in der mexikanische Etymologie.

VON WALTER LEHMANN, BERLIN.

Tomoanchan ist das Paradies des Westens, eine Entsprechung von *Tlalocan*, dem Reiche des Regengottes, dem Paradiese des Ostens. Es ist zugleich Name der mythischen Urheimat, wo die vereinten Stämme wohnten, ehe sie sich in einzelne Nationen auflösten. Die Etymologie dieses Wortes ist schwerlich die welche in den *Anales de Cuauhtitlan* angegeben wird, nämlich *temoua-to-chan*, "unsere Heimath wird gesucht," sondern *tamoua-in-chan*, "das Haus des Herabsteigens, die Gegend wo man herabsteigt." Dieser Ausdruck bezieht sich auf die untergehende Sonne und bezeichnet also die westliche Himmelsgegend.

Die Sonne geht gleichsam hinein in das Haus der Erde. Das dunkle Thor, in dem sie verschwindet, ähnelt nach mexikanischer Vorstellungsweise dem Rachen eines Untieres, das das Licht mit seinen Zähnen verschlingt. Diese Ideenverbindung ergiebt sich aus verschiedenen Thatsachen.

Der Sonnenuntergang, d. h., der Westen heist mex. *teotl-ac*, *tonatiuh-ac*, "der Gott, die Sonne ist ins Haus gegangen," (vgl. *cal-aqui*, "ein Haus betreten"). Ferner entspricht dem dritten in der Reihe der Zwanzig mex. Tageszeichen, *calli*, "Haus," das Zapotekische *guela*, *èla* (*ala*, *laala*), "Nacht,"¹ und ebenso Maya *akbal*, "Nacht, Dunkel," welch letzteres aus *akabal* entstanden (vgl. Qui'che *a'ka'b*, Cakchiquel *a'ka*, "Nacht—wo es dunkelt"), auf eine Wurzel *a'k* zurückgeht, die "schwarz, dunkel" bedeutet (vgl. *a'k-al* "Kohle," Yucat. *ek* "schwarz," Chiapas *ik*), ursprünglich aber mit einem Guttural anlautete, was aus Cakchiquel *k' ek* "schwarz," *k'ek-um* und *k'ek-al* "Schwärze" hervorgeht.

Die Erde ist demnach das Haus, in dem das Licht verschwindet, das Haus der Finsternis.

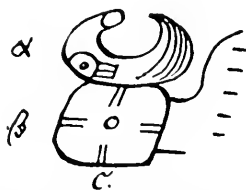
¹ Siehe Seler, Zur mex. Chronologie, Zts. f. Ethr., XXIII (1891), p. 119.

Dies kommt auch in den entsprechenden Hieroglyphen zur Geltung. Die Maya hieroglyphe für *akbal* "Nacht" zeigt zwei dunkle Augen, Zähne und einen verdeckten Mund; das Ganze ist eine Andeutung des die Sonne verschluckenden Erdrachens (siehe Figur *a* und *b*).

*a.**b.*

Hierzu kommt dass der Westen im Maya *chi-kin* "die Sonne (*kin*) wird gegessen (*chi*)" heisst. *Chi* bedeutet nämlich allgemein soviel wie "Öffnung, Eingang," und abgeleitet "Mund, Thor—Sprache—beissen, essen—Mund."

Die Maya hieroglyphe für *chi-kin* zeigt die Elemente α und β (Figur *c*).



Element *a* ist die gekrümmte Hand, eine Pantomime für "essen," während β die Sonne (*kin*) versinnbildlicht. Ersteres findet sich auch in dem von Bischof Landa angegebenen vierten Tageszeichen, *manik* "Hirsch" wieder, das dem mex. siebenten *maçatl* gleich ist, ferner in der Hieroglyphe des Regengottes *Chac* und des Nordens, *Xaman*, wo eine Hand dargestellt ist, die einen Kopf umfaßt, offenbar um den die Lebenden verschlingenden Rachen der Unterwelt zu veranschaulichen (siehe Figur *d* und *e*).

*d.*manik.xaman.

Der Ausdruck *chi* "gegessen werden" erinnert lebhaft an die

¹ Seler, Zts. f. Ethr., XXIII, p. 105; XX, p. 65.

metaphonische Bezeichnungsweise für Sonnen—und Mond finsternis im mex., nämlich *tonatiuh qua-lo, metztli qua-lo* "die Sonne, der Mond wird gegessen." Man glaubte nämlich das die Sonne von Jaguaren gefressen würde; deshalb heiss auch eine der vier prähistorischen Sonnen *occlo-tonatiuh* "Jaguar sonne,"¹ und deshalb war auch der Jaguar (*occlotl, occnlotli*) ein Symbol der Erde, da diese gleich jenem Raubtier die leuchtende Sonnenkugel verschluckt. Nach den Untersuchungen des Herrn Professor Seler, meines verehrten Lehrers, is aber der Jaguar niemand anderes als *Tecpatlipoca*, "das Herz der Erde," wie er im *Popol Vuh* genannt wird, der ränkische Zauberer und der blutige Krieger.

In Uebereinstimmung mit dem bisher Gesagten werden die *calli* ("Haus")—Jahre der 52 jährigen Periode der mexikanischen Zeitrechnung dem Westen zugewiesen.² Ebenso klar ist es das das Tageszeichen *ce calli* "i Haus" in Beziehung steht zu *Tamoanchan* und zu der Erdgöttin, das *ce calli* grade derjenige der fünf Zeitpunkte des in fünf Säuler angeordneten *Tonalamatl's* ist, der dem Westen zugeteilt wird.

Ich glaube nun nicht zu weit zu gehen wenn ich behaupte dass der Westen allgemein, als *pars prototo*, die gesamte Erde repräsentiert. Hierfür spricht eine Reihe von Thatsachen.

Zunächst is zu bemerken dass in den verschiedenen Bilderschriften Erd—und Berghöhlen in stereotyper Weise durch den gezahnten Rachen eines Ungeheuers dargestellt werden, so, Z. B., in der Hieroglyphe des Ortsnamens *Osto-man, Cucsal-osto-c, Osto-t-icpac*, etc.¹ Offenbar geht diese Bezeichnungsweise zurück auf jenen Stamm *tziuac* oder *cipac*, der "etwas Scharfes, gezahntes, die Zahnreihe" bedeutet. Denn *tjiuactli* is eine stachlige Bergpflanze, aus welcher mit Widerhaken versehene Pfeile, *tziuac-tlacoctli, tziuac-mill*, hergestellt wurden. *Cipactli* aber ist das "Crocodil,"² das durch seinen zahnstarrenden Rathen ausgezeichnet ist. Zugleich ist dieses ein Symbol der fruchtbaren Erde.

¹ Seler, *Tonalamatl der Aubin'schen Sammlung*, p. 49f.

² *Ibidem*, p. 108.

¹ *Codex mendoza*; vgl. Peñafiel, *nombres geográficos de mexico*. Mexico, 1885.

² Verschiedere andere Übersetzungen dieses Wortes stimmen in dem gemeinsamen Begriffe des "Sachligen, Gezahnter" überein. vgl. Boturini, *Idea de una nueva historia*, p. 45. Sahagun I, 282 i, III, 205 (*a-cipaquitli*, wohl gleich *a-cipartli*, Wasser *cipactli*).

Wenn es einerseits dem Osten entspricht so giebt es andererseits genug Gründe, es dem Westen, und wohl als ursprünglich zugehörig zu zusprechen dem Westen, welcher die Sonne verschlingt. Ist es doch in der mexikanischen Mythologie allgemein üblich Gegensätze mit einander in Zusammenhang zu bringen! Ich erinnere nur an die Erdkröte,¹ welche sowohl das Feuersteinmesser, d. h., die Sonne verschlingt (Westen), als auch gebiert (Osten); so giebt es einen nördlichen und einen südlichen *Tezcatlipoca*; dem Morgenstern entspricht der Abendstern, der Richtung nach oben eine solche nach unten, dem West paradiese (*Tamoanchan*, *cincalco*, etc.) ein Ostparadies (*Tlalocan*), u. s. w.

Cipactli ist also, wie schon erwähnt, das Symbol der fruchtbaren Erde, als welchem ihm auch Maiskolben in den Bilderschriften zugetheilt werden. Die Heimat des Mais ist aber im Westen, in *Tamoanchan*, wo die Erdgöttin *Tlaçolteotl* den *Centeotl* gebiert. Weiter ist *ce cipactli* der Regen der ersten Woche, in welcher *Tonacatecùtli* und *Tonacaciuatl* präsidieren, die Herren der Lebensmittel und die Schöpfer des Menschen (aus Mais), gleichfalls heimisch im Westen. Ferner entspricht dem ersten Tageszeichen *cipactli* im Maya *imix*. Letzteres wird dargestellt durch eine weibliche Brust, offenbar als Quell der Nahrung. Nun heisst thatsächlich die Brust in Maya *im* "ubre, teta o'pechos,"² und ich vermute, das *imix* "Brust" und *ixim*, *xim*, *xim*, "Mais" nicht bloß begrifflich, sondern auch etymologisch verwandt sind. *Ixim* könnte das bekannte Präfix *ix* enthalten, von dem Pio Perez bemerkt "signo del género femenino, principalmente en las hembras, yerbas y demas en que se encuentra," und *im* die nahrungsspendende Brust." Mag dies immerhin unentschieden sein, so bleibt es dennoch recht bemerkenswert das grade das Zeichen *imix* häufig zusammen mit einem andern angetroffen wird, welches *kan* "gelb, Getreidekorn, Mais" andeutet. Endlich weist auch das Zapotekische auf einen bestimmten Zusammenhang zwischen *cipactli* (*imix*) und einem Nahrungsmittel hin. In dieser sprache hat nämlich das Wort *chilla* folgende drei bedeutungen:³

a. "Trisolillos o hávas con que echan las suertes los sortilegos."

b. "Loma ó cordillera de sierra."

¹ Seler, Tonalamatl, p. 93a.

² Maya Lexikon von Pio Perez.

³ Seler, Zts. f. Ethn. XXIII, p. 115.

c. Cocrotillo, lagarto grande de agua."

a Erscheint bei der Wichtigkeit, welche *cipactli* "das Krokodil" im Tonalamatl, dem Wahrsagebuch, besitzt, sehr begreiflich. So ist auch *Cipactonal* der Name eines der Erfinder des *tonalamatl*. Im Popol Vuh wird von *Xpiyacoc* und *Xmucane*, denen mexikanisch *Oxomoco* und *Cipactonal* analog sind, erzählt das sie das Schicksal durch Werfen von Maiskörnern und Bohnen befragen. Daher glaube ich dass *cipactli* mit *imix* "Brust" und *imix* "Mais" in innerem Zusammenhang steht, denn *cipactli* entspricht als Tageszeichen dem *imix*-Zeichen, beide sind zweifellos Symbole der Fruchtbarkeit, der fruchtbaren Erde, und diese ja gebiert den Mais (*ixim*).

Der Grundgedanke ist eben die im weiblichen Geschlecht personifiziert gedachte Erde, die "Mutter Erde," welche befruchtet wird und mit dem Mais die Lebensmittel dem Menschen giebt. Daher in Maya die Brust, im Mexikanischen der Erdrachen, und beide bezüglich auf den Mais.

Cipactonal ist, um auf meine Behauptung zurückzukommen, dass der Westen allgemein ein Bild der Erde sei, gradezu ein Vertreter des Westens. Er ist einer der vier alten Weisen die neben *Oxomoco*, *Tlaltetecui* und *Xochicauaca* genannt werden.¹ Sein Name erinnert an den des Dämons *Cipat-na* im Popol Vuh, nur dass im letzterem das Element *na* dunkel ist. Im Maya bedeutet *na* "Haus, Mutter." Diese Begriffe hängen eng zusammen, denn das Haus ist nur ein Abbild der Erde, die Erde die Mutter des Mais. Da nun *cipactli* ein Symbol der fruchtbaren Erde ist, so könnte es in diesem Sinne ganz gut mit *na* verbunden worden sein. *Tlal-tetecui*, "der Erdstampfer," und *Xochicauaca*, "der Ort, wo alle Blumen aufrecht stehen," sind Namen des Nordens und Südens, des in beiden Regionen heimisch gedachten Tezcatlipoca.² *Cipactli* ist der die Sonne verschlingende Erdrachen, der Westen; mithin bleibt für *Oxomoco* nur der Osten übrig. Da dieses Wort aus dem Mèxikanischen nicht zu erklären ist, aber im Maya *oxon* "vaho, vapor ó calor del sol ó del fuego, bochorno" bedeutet, so könnte es wohl damit zusammenhängen.

Dass der Westen aber die Erde $K \alpha t' \xi \xi \circ \chi \eta v$ darstellt geht noch aus anderem hervor.

¹ Anales de Cuauhtlan.

² Die Namen *tlacoch calcatl* und *uibz nauatl* kennzeichnen ihn auch als "den "nördlichen" und den "südlichen."

Quetzalcoatl, der mythische Culturheros, der so deutliche Beziehungen zum Westen besitzt, wo der Mais und mit diesem die Grundlage aller Cultur entstanden ist, der durch die Ränke seines Feindes *Tezcatlipoca* vom Westen nach dem Osten, über *Cholula* nach *Coatzacoalco* gedrängt wurde, wo er sich verbrannt und sein Herz sich in den Morgenstern verwandelt haben soll, hat die *Chimalman*,¹ "den ruhenden Scbild," zur Mutter. Das ist zweifellos, nur die flache Erde, auf der wir gehen, die unter unsern Füßen liegt, weshalb Maya *caban* "Erde," eigentlich "das was unten ist" besagt.²

Der Westen ist, nach der alten Tradition, die mythische Urheimat, die Region wo man die Segnungen der Cultur empfing, die Geburtsstätte des Maisgottes. Der Westen ist also gleichsam der Uracker, als fruchtbringendes Land, ein Ausdruck der gesamten Erde. Das finde ich nun wörtlich in einem der alten mexikanischen Gesänge ausgesprochen.³

Hier heist es :

tonaca acrolma centla teumilco chicauaztica motlaquechizca.

"Der Mais, in *Acrolman* wurde der Mais geschaffen auf dem Uracker. Auf das Rasselbrett ist sie gestützt."

q. n. inic motocaya centli in mochiuaya teumilpa. ichicauaztica inic tlatacaya, inic tocaya.

"D. h., der Mais wurde auf dem Uracker gesät. Mit ihrem Rasselbrett grub sie, damit säte sie."

Das Rasselbrett ist ein heiliges Geräth, das Symbol der Fruchtbarkeit. Daher findet man es als Attribut der Gottheiten der Erde, des Wassers, des Regens und des Mais.⁴ *Teu-milli*, "der Uracker" ist der Acker des Gottes, des Erdgottes *Tlaltecūtlī*, und er bezeichnet als Geburtsort des Mais den Westen. Leider ist das Wort *Acrolman* bisher keiner Etymologie zugänglich, vermutlich ist es aber auch nur ein Synonym des Westens.

Die Mutter *Centeotl's* ist also die Erdgöttin, die *Tlaçolteotl*. Der fruchtbare Boden wurde aus sehr nahe liegenden Gründen mit einem Weibe verglichen; und in der That sind *Tetcoinnan* und *Nochiquetzal* weibliche Erdgottheiten, heimisch im Westen gleich

¹ *Chimalman* wird auch im cod. Boturini genannt, aber als Urahnin der Azteken; vgl. die *crónica Mexicana* der Aubin-Goupil'schen Sammlung vom Jahre 1576.

² Seler, Zts. f. Ethn. XXIII, p. 129.

³ Sahagun, cantares XIII, 2 und glosse.

⁴ Seler, *Tonalamatl*, p. 100a.

den *Ciuateteô*, den Seelen der im Kindbett gestorbenen Frauen. Auch *Xipe*, der nach den Untersuchungen Prof. Seler's ursprünglich ein Erdgott ist, wird deshalb zusammen, mit der Venus, dem *Quetzalcouatl* und der *Chalchiutlicue* in den Westen verlegt.¹

Da nun der Mais die Grundlage aller höheren Culturentwicklung bedingt und gradezu die Existenz des Lebens überhaupt ausmacht, so ist es nicht zu verwundern dass er in den Traditionen die Rolle desjenigen Materials spielt, aus dem allein lebensfähige Menschen geschaffen werden konnten. Seine Bedeutung ergibt sich schon daraus das *cipactli* das Symbol der fruchtbaren Erde, die Reihe der zwanzig Tageszeichen eröffnet. Denn *ce cipactli* ist ja der Regent der ersten Woche, wo, wie schon gesagt, *Tonacatecutli* und *Tonacaciuatl*, "die Herren des Mais," präsidieren, die Schöpfer des Menschen und die Götter der Urstämme, der Tolteken. *Tonaca*, *to-nacayo*, "unser Fleisch," is die Bezeichnung für Mais, Lebensmittel im allgemeinen geworden,² eben weil der Mensch der Sage nach aus Mais geschaffen wurde. Dies wird ausdrücklich im Popal Vuh gesagt:

*Panpaxil Pancayala u bi xpe vi k'ana hal Zaki hal * * **
are ca quibi chicop va camol recha yac utiu qu'el hoh.

are cut xquiric'o riecha

are cut xoc utiohil vinak tzak vinak bit ha cut u qu'quel.

vinak xuxic.

are xoc cumal alam c'aholom ri hal.

"Panaxil und Pancayala sind die Namen der Orte, aus denen kam der gelbe und der weisse Maiskolben.

Und folgendes sind die Namen der Tiere, welche die Lebensmittel brachten: *yac* (ein kleines Raubtier), mex: *talcoyotl*.

utin (mex. *coyotl*), *qu'el* (ein kleiner grüngelber Papagei), ..

hoh (eine Dohlen art, mex. *tzanatl*).³

Und so fanden sie die Lebensmittel.

Und so ging es ein in das Fleisch der menschlichen Creatur, der menschlichen Generation, und so entstand das Blut des Menschen.

So ging es ein durch den Vater, den Maiskolben."

Die Cakchiquel annalen weichen nur unerheblich hiervon ab.

¹ Seler, codex Fejervary, p. 109.

² Sahagun, cantares XIII, 2. *tonaca* = *centla* (*centli*) "Mais."

³ Diese vier Tiere sind berühmte Maisdiebe und daher besonders als Überbringer desselben geeignet.

Es werden bloß zwei Tiere, *utiuh* und *koch* (*hoh?*) genannt; sie wissen wo es Lebensmittel giebt. Der Mais wird in dem Miste der Tiere gefunden. Man tötet den *utiuh* und holt den Mais aus seinem Bauche. Bemerkenswert ist aber eine Variante, das nämlich der Sperber, *tiuhuih*, aus der Tiefe des Meeres das Blut der Tapirschlange, *tirli-cumatz*, hervorbringt. Die beiden letztgenannten Tiere sind die Vertreter des Regens. Der Mais wird also mit dem "Blut der Tapirschlange" zusammen geknetet und so entsteht das Brot, welches seinerseits das Blut des Menschen unterhält. Das Blut der Tapirschlange ist aber weiter nichts als ein symbolischer Ausdruck für Wasser, denn Wasser ist zur Brotbereitung unbedingt erforderlich.

Auf diese eigenartigen Speculationen werde ich noch unten bei der Erdgöttern zurückkommen.

Ich füge nur noch hinzu das der im Popal Vuh erwähnte "gelbe und weise Maiskolben" auch in einem der mexikanischen Gesänge genannt wird:¹

Ahuiya coçauic xochitla iyacueponca, "Ei, die gelbe Blume ist aufgebrochen."

Ahuiya istac xochitla oyacueponca, "Ei, die weise Blume ist aufgebrochen."

Unter "gelber und weiser Blume" ist der Mais zu verstehen. Und da, wie oben erörtert, seine Heimat im Westen, in *Tamoanchan* zu suchen ist, so fährt der Gesang fort:

Ycua tonan a teumechauc moquicica tamoanchan

"Sie, unsere Mutter, die Göttin mite der Schenkelhautbemalung, ist herausgekommen aus *Tamoanchan*."

Mit der Geburt des Maisgottes, die in dem XIV Gesange, vers 2, mit den Worten:

Yccoc ye tonan yccoc ye teute tlaçolteutle, "schon hat ihr Werk gethan unsere Mutter, schon hat ihr Werk gethan die Göttin *Tlaçolteutl*."

Angedeutet ist, Ercht gleichsam die Morgenröte der Cultur herein; daher heist es auch weiter in demselben Hymnus:

Vers 4. *Otlacatqui centeutl*, "geboren wurde der Maisgott."

Vers 5. *Oyatlatonazqui tlauiçcallenaya*, "schon will es Tag werden, die Morgenröte erhebt sich."

Dass nun die Helligkeit, das Licht ein Symbol der Cultur ist, geht auch aus den Mayasprachen direct hervor; von *zak* "weiss

¹ Sahagun, cantares IV, i, 3.

hell" wird im cakchiquel *zak-ir*, "hell werden, zur Cultur gelangen" abgeleitet.

Andrerseits wird *zak* auch von der "grauen Vorzeit" gebraucht, wo, wie es im Popol Vuh heist, nur vereinzelte Lichter auf der Erde aufblitzen, und es noch keine Sonne gab. In Quiché ist *Zak-et'al* "das Urgeschlecht, das Geschlecht der Dämmerung, der Vorzeit," und *Zakil-al*, *Zakil-cahol* sind die Kinder dieses Urgeschlechts.

In diesem Sinne glaube ich auch den berühmten Namen der mexikanischen Urheimat *Aztlan* deuten zu dürfen. Die Wurzel *az* bezeichnet zweifellos eine weissliche hell Farbe: vgl. *aztatl*, "der weisse Reiher" (wenn diess Wort nicht mit *aastli*, "Flügel," zusammenhält?), *aztapilin*, "Wasserrohr mit weissen Wurzeln," *aztapiltic*, "sehr weiss," *astauhyatl* und *istauhyatl*, "Wermut," *istatl*, "Salz," *istac*, "weiss." *Aztlan* war demnach das "weisse Land" im Sinne der grauen Vorzeit, also die ferne Urheimat.

Danach müste man *Aztlan* ebenfalls nach Westen, in die Gegend der Dämmerung verlegen, und thatsächlich vermutet Herr Prof. Seler das *Aztlan* eine Parallele darstellt zu dem Oestlichen Paradiese *Tlaloc's*, und *Tamoanchan* entspreche.¹

Dass der Ursprung der Cultur grade im Westen gesucht wurde, geht aus einer Stelle im Codex Vaticanus A. u. Codex Telleriano Remensis hervor. Hier sieht man den in *Tamoanchan* heimischen *Tonacatecutli* gegenübergestellt der *Xochiquetzal*, *Oromoco* und *Chicomecouatl*. Erstere Göttin ist die Patronin von Spiel und Tanz, weiblicher Kunstfertigkeiten wie des Weben und Spinnens, aber auch der Freudenmädchen (*auianime*). *Oromoco* wurde schon oben bei *Cipactonal* erwähnt. Beide waren der Sage nach die alten Wahrsager, Looswerfer und Zauberer, die Erfinder des Tonalamatl's; sie entsprechen den im Popol Vuh auftretenden Personen *Xpiycoc* und *Xmucane*, welche selbst von den Schöpfern des Menschen um Rath angegangen werden. Dies geschieht eben weil die Wahrsager sich der Maiskörner bei ihrem Geschäfte bedienen, und der Mensch aus Mais geschaffen wird.

Chicomecouatl, "F. Schlange" ist die Göttin der Maisfrucht, welche auch gradezu mit der *Tonacaciuatl* identifiziert wird, also die Erdgöttin in der Tracht der Maisgöttin darstellt.

Der Hauptrepräsentant der mexikanischen Cultur, *Quetzal-*

¹ Seler, Veröffentlichungen aus dem kgl. Museum für Völkerkunde I 4, p. 134.

couatl, der Erfinder des Cultus, des Kalenders und anderer Wissenschaften ist zugleich Gott der Kaufleute, welche die Cultur des Westens nach dem *tlillan tlapallan*, den Mayaländern brachten. Herr Prof. Seler hebt mit Schärfe hervor dass die Mayastämme nicht die Geber, sondern die Empfänger der Cultur sind.¹

Die Vertreter dieser alten Cultur sind die Tolteken, die Bewohner von *Tollan*, das in einem bei Mexico gelegenen Culturcentrum *Tula* seine historische Bestätigung gefunden hat.

Quetzalcoatl war ihr Priester, König und Stammgott in einer Person, welcher Historie und Mythos in wunderbarer Weise umwoben haben. Da aber *Tonacatecutli* und *Tonacaciuatl* als die Götter der ältesten Zeit und der ersten Menschen gelten, so sind sie in der Tradition auch die der Tolteken.

Ich komme nunmehr auf eine andere interessante Beziehung zu sprechen, welche dazu beitragen soll, den Westen als die Erde $\tau \kappa \alpha ' \epsilon \xi \sigma \chi \eta \nu$ erscheinen zu lassen, ich meine die symbolische Bedeutung des Ballspiels.

Dass überhaupt derartigen Spielen ein tieferer, religiöser Sinn zu Grunde liegt, erhellt aus dem unter dem Namen "Volador" bekannten Spiel. Nach den Berichten Clavigero's und Oviedo's bestand letzteres darin, dass vier als Vögel verkleidete Indianer, mit Stricken versehen, eine drehbare Holzkappe erkletterten, die sich auf einem hohen Mastbaume befand. Von dieser liessen sie sich in der Weise herab, das sie gleich fliegenden Vögeln in dreizehn immer schneller werdenden Umdrehungen den Erdboden wieder erreichten. Zweifellos hat die Zahl $4.13=52$ eine Beziehung zum Kalendersystem, da grade 52 Jahre einen bestimmten Cyclus innerhalb der mexikanischen Chronologie ausmachen—das Spiel wird also wohl den Lauf der Sonne symbolisiert haben.

Ähnliches gilt von dem Ballspiel auf dem Ballspielplatz (*tlachtli*). Dieser ist gewissermassen die Erde en miniature. Die Bälle, welche von zwei Parteien nach den vier Feldern des Platzes geworfen werden, sind Abbilder des Sonnen balls, der über der Erde kreist, der Sonnenbewegung, welche vier Stadien, die Himmelsrichtungen durchläuft, weshalb *nauí olin* "vier Bewegungen" das Zeichen der Sonne war.

Der Ball nun aber, der grade durch das Loch des *tlachtmalacatl's* fliegt, eines Kreistrunden Steines mit einer Oeffnung

¹ Seler, Über den Ursprung der mittelamerikanischen Culturen. *ges. Werke* Bd. I, p. 537-552.

in der Mitte, symbolisiert den Eingang der untergehenden Sonne in den Rachen, das "Loch" der Erde, d. h., den Westen. Mit diesem Eintritt in das Loch verbanden jedoch die Mexikaner zugleich geschlechtliche Vorgänge; sie dachten dabei an die Vereinigung des Sonnengottes mit der "Mutter Erde," aus welcher Verbindung der Maisgott entsprang.

Die Erdgöttin *Tetcoimman* wird in den Bilderschriften der Codex Borgia gruppe zusammen dargestellt mit dem Sonnengott, vereinigt unter einer kostbaren Decke. Ein ähnliches Bild des geschlechtlichen Verkehrs zeigt Codex Vaticanus A. neben dem Gotte *Tonacatecùtli*, dem Herrn der Lebensmittel und von *Tomoanchan*. Bei dem Feste der Erdgöttin *toci*, "unserer Grossmutter," dem Besenfeste *Ochpanistli*, wurde die Geburt des Maisgottes symbolisch dargestellt: *Uitzilopochtli*, der wohl ursprünglich nur der Sonnengott ist, befruchtet die Erdgöttin, die sich ihm hingibt und darnach den *Centcotl* zur Welt bringt. Auch sonst wurden die Opfer der Erdgöttin in Coitusstellung mit Pfeilen erschossen.

Hier erinnere ich noch einmal an die oben erwähnte Erdkröte welche das Feuersteinmesser (d. h., die Sonne) verschluckt und wiederum gebiert, wobei ausdrücklich von einem Interpreter bemerkt wird, der Mais sei von der Sonne gezeugt.¹

Ueberhaupt finden sich eigentliche sexuelle Vorstellungen nur bei der Erdgöttin dargestellt und ausgesprochen. So wird in den *Anales de Quauhtitlan* zu den Opfern gesagt: "wir gehen jetzt nach *Tollan* um mit euch die Erde zu begatten."

Ebenso täuschte man die Opfer des *Ochpanistli* festes vor ihrer Tötung mit den Worten: "O meine Tochter, jetzt wird dich der König *Motecuçoma* heimsuchen, freue dich!" Im Codex Borbonicus sind bei demselben Feste die Begleiter der Erdgöttin. "ihre Huaxteken," mit einem Phallus abgebildet. Da *Xochiquetzal* auch mit der *Tonacaciuatl* ident ist, si wird die geschlechtliche Vereinigung auch bei ihr dargestellt, und der Geburtsakt bei der *Tlaçolteotl* (beides im Codex Borbonicus).

Weiterhin trägt die Erdgöttin auf der Backe ein Loch als Kautschukbemalung: *tlaxapochtli in contlaliticac ycamapan*. Und ihr Schild hat eine Goldscheibe mit einem Loche in der Mitte:

¹ Seler, Tonalamatl, p. 93a.

*Ynichimal tlocuilla ytlaxapo.*¹ Dieses Loch ist sicherlich ein Ausdruck sexueller Acte.

Napotla, "ein Loch machen," wozu *tlaxapochtli*, "Loch" ein participium pass. ist, hat den speciellen Sinn von "entjungfern," "desflorar ó corromper virgen."²

Das vierte der Fastenhäuser *Quetzalcouatl's* heist *tlaxapocalco*, "das Haus des Loches" und ist ident mit *rochicalco* und *cincalco*, "dem Blumen- und Maishause," dem Paradiese des Westens, der Heimat des Mais.

Bedenkt man, dass die Erdgöttin, die Göttin der geschlechtlichen Umarmung, der Sünde, die Mutter des Maisgottes ist, den sie vom Sonnengotte empfängt, so ist es klar das das Loch des Ballspielplatzes, durch welches der Kautschukball der Spieler, d. h., der Sonnenball, der Sonnengott, geworfen wird, ident ist mit den weiblichen Genitalorganen und mit dem Loch, das die Erdgöttin auf Backe und Schild aufweist. Beachtenswert ist dabei noch der Ruf, den die Menge der Zuschauer an den glücklichen Spieler richtet, dem es gelang den Ball durch die Höhlung des *Tlachte-malacatl's* zu schleudern, wodurch er das Recht erlangte, die umstehenden auszuplündern:

Ca nei nei tetlaxinqui, "das ist ja ein ganz grosser Eliebrecher"!

Hierin liegt offenbar ein Hinweis auf den Coitus. Dieser Wurf ist nichts andres als eine Imitation der Vereinigung von Sonne und Erde im Westen.

Für diese "erdnahe Sonne" giebt es auch die Bezeichnung *tlalchi tonatihu*, die sich bei *Xolotl*, dem Symbol der Geminatio und Herrn des Ballspielplatzes, dem Zwillingbruder *Quetzalcouatl's*³ findet; *tlalchitonatihu* ist im Codex Teller. Rem. als Kröte dargestellt, die mit ihrem Rachen die Erde verschlingt.

Somit versinnbildlicht der Ballspielplatz die Erde, den Westen die Region, wo die Sonne in die Erde hineingeht. Dies hat bereits Herr Prof. Selser an verschiedenen Stellen seiner Erläuterungen des *Tonalamatl's* der Aubin'schen Sammlung dargethan. Ich füge nur noch hinzu dass im XIV Gesange Sahagun's, Vers 9 gesagt wird:

¹ aus Sahagun Manuscript Buch i. cap. 8; vgl. Selser, Kröffl. I, 4, p. 147.

² *Lexicon* des Molina.

³ *Couatl* bedeutet nämlich sowohl "Schlange" als auch "Zwillings-louder."

Ollama ollama uine Xolotl nauallachic ollama ya Xolotl Chalchiuicatl. Xiquitta mach oyamoteca Piltzintecutli yoanchan.

„Ball spielt, Ball spielt der alte *Xolotl* auf dem Zauberballspielplatz; schon spielt Ball der *Xolotl*, der Herr des grünen Edelsteins. Sieh, wie er sich aufgestellt hat der *Piltzintecutli* in *Yoanchan*.“ . .

Piltzintecutli ist aber der Sonnengott. *Yoanchan* dürfte „das Haus der Abenddämmerung“ sein, das Haus, wo es Nacht wird; vgl. *youa* (*yoa*) „anohecer“ (*Molina*), wovon *youalli* „Nacht“ das part. pass. ist. „Sieh den Sonnengott, wie er sich aufgestellt hat im Hause der Dämmerung“ besagt also nichts weiter, als dass die Sonne im Westen untergeht. Es ist jedoch interessant, dass diese Bemerkung sich unmittelbar anschliesst an das Ballspiel *Xolotl's*.

Das Bild des Ballspielplatzes in den Hieroglyphen mit seinen vier farbigen Feldern, die denen der vier Himmelsrichtungen gleichen, hat nun eine gewisse Aehnlichkeit mit dem Zeichen des siebenzehnten Tages *olin*, welches *Xolotl*, der Herr des Ballspielplatzes¹ regiert. Es zeigt zwei Felder, von denen das eine (rote) den lichten Himmel, das andere (dunkelblaue) die Erde darstellt. Zwischen beiden steht ein Auge, d. h., die Sonne; das ganze läuft also auf die Bezeichnung von *tlachitonatiuh* hinaus.² *Xolotl* selbst wird aber mit dem letzteren Zeichen identifiziert, so dass es vollkommen durchsichtig ist, dass *tlachtli* und *olin* zu einander gehören,³ und zwar so, dass *olin* aufzufassen ist als ein reduciertes Zeichen von *tlachtli*; bei der Andeutung der zwei zusammenstossenden oder sich kreuzenden Felder können sehr wohl nach den obigen Ausführungen auch geschlechtliche Motive massgebend gewesen sein.

Da nun *nauí olin* die Sonne in den vier Stadien ihres scheinbaren Umlaufes kennzeichnet, *olin*, *tlachtli* und *tlachitonatiuh* sich auf *Xolotl* beziehen, so vereinigt, ja man könnte sagen, kuppelt dieser Sonne und Erde zusammen, was schliesslich seiner Natur als Gottheit der Geminatio nicht fern liegt.

Ehe ich jedoch diese Erörterungen beende möchte ich noch kurz die Synonyma des Westens erwähnen.

Tamoanchan ist anfangs besprochen. Ihm reihen sich mehrere

¹ vgl. Sahagun, cantares XIV, G.

² vgl. Seler, Tonalamatl, p. 14.

³ vgl. Dr. Preuss, kosmische Hieroglyphen der Mexikaner, Zts. f. Ethn. XXXIII (1901).

andere Bezeichnungen an. Ich nenne *Atlyayaucan* (*Atlyayaucan*),¹ "Ort des Wassers und des Nebels," der Westen wohl in Bezug auf die für fruchtbares Land nötige Feuchtigkeit; ferner *Tlacapillachiualeya* "Ort, wo die Menschenkinder gemacht werden, der Westen wohl in Erinnerung an die Geburtsstätte des Maisgottes; weiter *Chalchimichuacan* "das Edelstein *michuacan* (*Michuacan* zeigt an sich schon den Westen an). *Xochitlicacan* "der Ort, wo die Blumen aufrecht stehen" geht auf den im Westen geborenen Mais.²

Cincalco "im Maishause" ist eine allgemeine Bezeichnung des westlichen Paradieses, ident mit *Tamoanchan*. *Xochicalco* "im Blumenhause" ist die Heimat der auch mit der Erdgöttin identifizierten *Nochuquetzal*; sie liegt ebenso im Westen wie *tlaxapocalco* "das Haus des Loches," das ich oben bei der Erdgöttin erwähnte. Endlich weise ich noch einmal auf *Aztlán* "das Land der grauen Vorzeit" hin, das ebenfalls, wie ich zu zeigen bemüht war, im Westen zu suchen ist.

Nun noch einige Worte über den Cultus der Erdgöttin! Er zeichnet sich durch seine blutigen Opfer aus. Die Frage, wie dies zu erklären sei, ist sehr einfach zu lösen. An und für sich erwachte schon die Idee, dass die Sonne von der Erde verschlungen werde, die Vorstellung, die Erde sei ein feindliches Princip. Und in der That heist auch die Erdgöttin die "Kriegerin," *yaociuatzin*.³ Aber ein anderer Gedankengang begründet die blutige Grausamkeit der Opfer noch schlagender:

Die Erde ist die Mutter des Maisgottes; um sie zu befruchten bedarf es des Blutes, das im Körper der aus Mais geschaffenen Menschen rollt. Um Mais zu gewinnen mus man Menschen hinschlachten. Diese werden im Kriege erbeutet; Kriegsgefangene sind zum Opfer bestimmt. Daher ist die Erdgöttin die Göttin des Krieges, daher sind *tlācatl inītl* "Kreide und Daunen," die Zeichen der Kriegsgefangenschaft und des Opfers, daher Adlerfedern, die Federn des unerschrockenen und Kühnen Vogels, ihre Symbole. Die Phrase *quauhtli ocelotl* "Adler und Jaguar," die

¹ Sahagun, cantares IX, 1, und XIV, 4.

² Ibidem XIV, 3, 5, 8. Dap. *xochicauaca* "der Ort, wo alle Blumen aufrecht stehen" auch gelegentlich einmal den Süden, die Gegend der Wärme und des üppigen Wachstums bezeichnen kann, ist begreiflich, Zumal auch an anderen Stellen (20 Z. B. im codex Land) der *centcott* dem Süden Zugeteilt wird.

³ Sahagun, Cantares XIII, 6.

einen mutigen Krieger charakterisiert, geht im Grunde also auf die Erdgöttin zurück, denn auch der Jaguar ist, wie oben gezeigt, ein Symbol der Erde.

Das Blut der Opfer stellt symbolisch das befruchtende Nass, das Wasser dar. Oben bei Erwähnung der Cakchiquelannalen wurde auf das Blut der Tapirschlange aufmerksam gemacht—es ist das zur Brotbereitung notwendige Wasser. Hiermit steht im Einklang, das *Tonacatecùtli* "der Herr des Mais und der Lebensmittel" auch folgende Epitheta hat:¹

tecollaquenqui yeztlaquenqui "der sich in Kohle, der sich in Blut kleidet," *tlallamac* "der die Erde mit Speise begabt."

Im gleichen heist es von der Erdgöttin *Quilastli*:²

Quilastla coacztica xayauoloc "die Quilastli wurde mit Schlangenblut im Gesicht bemalt."

Dies "Schlangenblut" ist wie das "Blut der Tapirschlange," nur eine Umschreibung für Wasser, da *couatl* "Schlange," ein Symbol des sich in Windungen und Krümmungen dahin bewegendes Wassers ist.

In all den genannten Beziehungen liegt ein ungemein tiefer Sinn. Die durchgreifende Idee ist, möchte ich beinahe sagen, die des Kreislaufs der Materie, des Werdens und Vergehens. Denn der Mensch lebt von der Pflanze, und sein Leib düngt ihr den Boden.

Es liegt mir jedoch fern, diesen hochphilosophischen Gedanken, der seine moderne Form in dem Gesetz von der constanten Grösse der Materie gefunden hat, auf die mexikanische Mythologie anzuwenden. Die geschilderten Verhältnisse sind hier so einfach als möglich zu denken, entsprechend der naiven, und darum oft so überraschend tiefsinnig scheinenden Auffassungsgabe eines Naturvolkes; fast unbewusst haben sie sich dem Geiste der Central Amerikaner aufgedrängt und sind nur später in mehr oder weniger künstlicher Weise von Priestern in ein System gebracht worden.

Dass aber die Erde und besonders der Westen, wo sich täglich das wunderbare Schauspiel des Verschwindens der Sonne vollzieht, einen besonders nachhaltigen Eindruck auf den Geist des mexikanischen Volkes ausgeübt hat, steht ausser Frage. Er spiegelt sich wieder in der Auffassung der Erde als eines Rachens,

¹ *Anales de Quauhtitlan*.

² Sahagun, *Cantares* XIII, 1.

der das Licht verschlingt, in der geschlechtlichen Vereinigung von Sonne und Erde, aus welcher der Mais entspriesst, der wesentlichste Factor, ja die Grundlage der gesamten central-amerikanischen Cultur ist, die es doch zu einer in vieler Hinsicht erstaunlichen Höhe gebracht hat.

Der Mensch und alle Güter seiner Cultur sind im Westen zu Hause, wo ihr Ursprung mehr oder weniger direct von der Erde sich ableitet. Man kann also wohl mit Recht den Westen als das Prototyp der Erde bezeichnen.

Some Obsidian Workings in Mexico.

BY

ADELA BRETON.

Having visited several obsidian workings in the States of Hidalgo, Michoacán and Jalisco, chiefly for the purpose of obtaining geological specimens, I think a brief note of them may be useful to any one who has opportunity to study them more thoroughly.

In Hidalgo, the Cerro de Nabajas near Pachuca, is so well known that I need scarcely mention it, especially as Professor W. H. Holmes has printed an account of his visit there. It is most easily reached from Pachuca, by riding on the Tulancingo road about two hours and then straight up the hill, altogether three and a half hours of fairly fast riding. This is to the first pits and mounds of rejects, but as they extend all over that side of the hill, and also on the north, towards the Rancho of Zembo, a stay might with advantage be made at the Hacienda of Guajolote, from which they could be observed at leisure. The rejects on the surface are mostly of the ordinary types.

Near Tulancingo, to the northeast, about two miles from the town, are two mounds of chips and rejects, where lance-heads have been made. The mounds are 20 feet across and 8 to 10 feet high. Some of the rejects are carefully finished while others are only roughly shaped. All are broken, so that one finds pointed ends, square-shaped ends and middle pieces, which belonged to implements from 10 to 17 centimeters long and from 5 to 6 centimeters wide. Another shape is larger, and must have been 22 centimeters long, and 9 $\frac{1}{2}$ wide; these also are pointed at one end. The obsidian may have been brought there either from a neighboring hill, or from the Cerro de Nabajas on the other side of the valley, the mounds being at the eastern end of the ancient site which begins below the large cave traditionally said to have been made by the Toltecs.

At Zacaultipan, 22 leagues north, obsidian was also worked, as there is an outcrop of it there, and small heaps of rejects remain.

To the south of Tulancingo, about four and a half hours' ride on the road to Apam, and beyond the Rancho of Lagunita, there is a ridge of obsidian, which has been worked, partly at so remote a period that a thick lichen has had time to grow on some of the chips in that extremely dry climate.

There are some small shady caves in the side of a low hill near, to which the workers brought their roughly shaped pieces to finish, and the fragments are strewn down the slope. There are all sorts of bits, broken and half-finished implements, in fact everything except those many-sided objects which hitherto have been called cores, but which are conspicuous by their absence from all the workings I have seen, except one, to be mentioned later on.

Michoacan.

Zinapécuaro, or place of Tzinapo, the Michoacan name for obsidian, is a pleasant town about half an hour's drive from the station of Huingo on the Mexican National Railway between Acámbaro and Morelia. Obsidian crops out in several places, the chief of which is a low hill beyond the church. Here are numbers of pits and heaps of rejects. The obsidian has been regularly mined, the pits being about two feet in diameter and fifteen or more deep. From the convenient situation this would be an admirable place to study. The pits could be descended with a rope ladder and their comparative age, and the method of working observed. In addition to the pits which are on top of the hill, some caves have been made on the far side, and careful digging might give interesting results as the floor is deep in refuse. A curious thing in one of the caves is that rounded hammer-lumps, which have apparently been used, are embedded in the white crystalline, sandy stuff of which the cave walls are composed, as if *in situ* like the other lumps of obsidian.

Some of the heaps of rejects consist almost entirely of very small thin chips, perhaps left from the making of awls or needles. Specimens of rejects from Nabajas and Zinapécuaro, are in the museum at Bristol, England.

Zinapécuaro must have been a very ancient place of settlement. The climate is delightful, the soil rich, there are medicinal, warm springs and several isolated hills well adapted for fortification. One of these has had its slopes shaped into low terraces one or two

feet high and eleven or twelve feet broad. Another, the largest, in the centre of the valley, is scarped and terraced, and has remains of buildings on top, including a subterranean chamber with steps leading down to it, now covered with fallen stones. Beyond this hill, in the valley, is an ancient site, about 5 miles from the town, with mounds and leveled spaces. One sculptured stone was still lying there in 1896. The building of a hacienda, near by, may have absorbed any other worked stones.

Jalisco.

Ixtlan de los Buenos Aires takes its name from the *ixtli* = obsidian, to be found near it, but I failed to discover the spot. It is, I believe, in the direction of Hostotipacuillo.

Nearer to Guadalajara, the Volcano of Tequila has developed obsidian to a remarkable extent. Above the town of Tequila, the walls of the fields are made of great blocks of it, but I had not time there to look for any workings. On the opposite side of the mountain, at Teuchitlán, obsidian rejects are thickly strewn over a great extent of ground.

Teuchitlán is a small town at the foot of a long spur of the volcano, five leagues from Refugio, a station on the railway from Guadalajara to Ameca, but probably more easily reached now from the new branch line to San Marcos. In addition to the obsidian, it has a most interesting ancient site on the summit of the hill, and the remarkable mounds and circles called Huaerchi Monton half way up.

The obsidian rejects are massed at three points. One is a terrace by a mound on a slope above the town, where the ploughed ground is covered with unusually large and long pieces, roughly flaked. The second is a spot at the foot of the hill, near a spring, where vast quantities of flakes and rejects of all descriptions are wedged together in a layer about 12 feet square. I have not been able to refer to my notes for the dimensions of this layer, but an American told me he had taken out 5000 flakes (some of which are in the Field Columbian Museum at Chicago) and I took out 2000 in 1896-7, and that made a very small hole in the deposit. Very many of the flakes are broken. They are of all sizes, from razor-like blades 8 or 9 inches long, to the smallest and thinnest possible. Some of mine are in the Peabody Museum at Harvard and others in the Museums of Bristol and Manchester, England.

On this deposit I found some bones, which, with the skull, were partly in two red earthen bowls. The front teeth, both upper and lower, had been filed into peculiar shapes.

Some three miles from Teuchitlán, on another spur of the ridge, the obsidian cropping out along the top, has been worked, and the heaps of rejects extend for a mile. Some of the flakes are covered with a thick white crust. Obsidian takes a long time to weather, and the lance-heads at Tulancingo are as fresh as if made yesterday, so that where the volcanic glass has materially weathered, a prolonged period must have elapsed.

The town of Etzatlán, about 20 miles beyond Teuchitlán, is a station on the railway to San Marcos, and from it the Island in the Lake of Magdalena can be visited. This is in some respects the most remarkable of the obsidian workings which I have seen, as it appears to have been a manufactory of the many-sided objects hitherto, called cores. There are no pits, but lumps of obsidian occur on the surface, and these objects are strewn over the ground in quantities. In an hour or two my servant collected so many that I brought away thirty-one, and only left the others as too heavy to carry.

Now, in not one of the other workings, among the very many thousands of pieces of all shapes which I have handled, was there one of these "cores." I have found them on temple sites in other parts of Mexico, and at Teotihuacán and Mitla they have been numerous, but their marked absence from the extremely varied heaps of rejects I have mentioned (especially at Teuchitlán, their presence in burial deposits, as at the mound at Guadalupe near Etzatlán, and this enormous quantity, apparently rejects, at Magdalena, seem to make a reconsideration of their name desirable). That they were originally developed from real cores is most probable, the Mexican mind being peculiarly ingenious in finding uses for things which other people would throw away.

A Claim for the Discovery of the Coast of Guiana by the Dutch.

BY

L. C. VAN PANHUYS.

The curious pretension, expressed in the title of this article, was made by a Dutchman, A. Cabeliau, "Commies-Generaal", in a report, entitled "Verclaringe van de onbekende ende onbes-seylde voiage van America beginnende van de riviere Amasonis tot het eylant van de Trinidad toe". (Explanation of the unknown and never sailed voyage to America, beginning with the river Amasonis, to the island of the Trinidad), presented to the "Staten-Generaal" in the beginning of the year 1599. The manuscript is at the Ryksarchief (Archives of the Kingdom) at the Hague, but Yonkheer de Jonge, D.C.L., published it *in extenso* in his work "De opkomst van het Nederlandsche gezag in Oost-Indië" (The first development of the Netherland rule in the East-Indies), 1862.

The claim is the more curious as we see that, even the West-Indian voyages of Walter Raleigh and Lawrence Keymis, nearly about the same time, were quite known in Holland, as is proved by an "instruction," made in 1597 by the Dutch geographer Hondius, published also by Jonge, Part I, page 179. Perhaps this may be the reason that our Dutchman used the word discovery in the sense that he was the first of his countrymen who undertook measuring the size of the land and its river-mouths, and bringing its form on a chart, as accurate as he thought was possible.

Starting from den Briel December 3rd, 1597, with the ship "de zeerridder" (the Sea-Knight), they saw the Wild Coast on February 9th, and came in contact with Indians of the "nations." Geribus (Galibis, Caribs) and Jau near the river Caurora (Kourou) at the 15th, and also, at the 17th with the "nations" Hebaio and Arwaccus (Arrowacks). At the river Cauwo (Kaw) they found the "nation" Iaio. They met with several Dutch ships, and

visited the following rivers together with two of these ships: Wyapoco (Oyapock), Curassawini, Cunamamae (Counamama), Juraco (Iracoubo), Mavary, Amano (Mana or Amanibo), Marawini (Dutch Marowyne, formerly in French: Marouïne, see *Histoire Naturelle et Morale des Iles Antilles de l'Amérique*, by L. D. P. 1658 page 351, presently called in French and by the negroes wrongly "Maroni," also by Jooest, *Ethnographisches und Verwandtes aus Guiana* Int. Archiv. für Ethnographie, Band V), Carapi, Surinamo (Surinam), Saramo (Saramacca), Coupinama (Coppename), Waycara (Nickerie?), Curetini (Corentyn), Worinoque. Between Oyapock and Kourou they had specially visited Cawowya (Kaw), Cayany (Cayenne river) and Macuria (Macouria). Still several other river names are given, but these rivers were not visited by the three ships, because the Indians said there was not much to barter there. In the Orinoco they were (notwithstanding the Netherlands were in full war with Spain) received very friendly by the Spaniards. The freely translated conclusion of the report is that they have discovered, found and sailed more than twenty-four rivers on this voyage, many islands in the rivers and other ports, which were never known nor navigated by these countries, yes, what is more, were never, before the date of their voyage, discovered or described on any charts.

The History of the discoveries and Settlements in these parts of Guiana is well treated in the excellent work of the now late General P. M. Netscher "*Geschiedenis van de Koloniën Essequibo, Demerary en Berbice*," 1888.

The principal explorations in the second part of the past century in the colony of Surinam, discoveries more in the general sense of the word, were the following:

1856. Dr. Voltz—geological survey, mostly on the coast and savanna region.

1861. A Dutch-French commission, the Marowyne and Lawa (East frontier river), and part of the Tapanahony.

1861-1879. Parts of several rivers, and a part of the land between them, indicated on the great chart of the colony by Mr. Cateau van Roosevelt and Mr. van Lansberge.

1877-1892. Several lines cut through the wood and measured by the Government surveyor, Mr. Loth, who discovered in 1902 the point of junction of the Wilhelmina and the Emma rivers (between Lawa and Tapanahony).

1885. Prof. Martin, geological survey, specially on a part of the Surinam, as far as the Bush-negro village Toledo (about $4^{\circ} 34'$ N. L. and $55^{\circ} 18'$ W. L. Greenwich).

Preceded by Mr. van Drimmelen in 1899, Dr. van Cappelle explored in 1900 a part of the Upper-Nickerie and made also a geological research in the land between Nickerie and Coppename.

With exception of the voyage of Prof. Martin all these explorations were made by aid of Government.

Geological explorations were made in 1898-1901, by a private company, in the land between Surinam and Marswyne.

Since 1901 explorations have been made systematically by a Commission for Scientific Research in Surinam, the Government paying one-half or two-thirds of the costs. In that way were explored, in 1901, the Coppename, to its sources, at a point at about $3^{\circ} 57'$ N. L. and $56^{\circ} 49'$ W. L. and the Wilhelmina mountains were discovered.

In 1903, the Upper Suramacca, to its sources. In the year 1903 an expedition started for the Gonini, a branch of the Lawa. The intention is to take in 1904 the Upper Surinam, as far as its sources. Moreover a bill has been proposed by which the Government, in connection with a project for a railway to the interior, will be authorized to spend one million guilders for an exploration of the land between Lawa and Tapanahony.

Ways of Paying in the New Netherlands, at Dutch Guiana, and in the Former Dutch Colonies of British Guiana.

BY

L. C. VAN PANHUYS.

When the Dutch established the New Netherlands in America, it was natural that their first way of bargaining with the Indians should be by exchange of natural objects, and by using, at least at first, the Indian way of paying. But it is peculiar that, relatively these native ways of paying remained in use for a long time not only between colonist and Indians, but also among the colonists themselves.

No description how the Indian "money," the beads, was made from clam shells will be given here. The beads were called seawan (of the Dutch made "zeewant") by the Indians of Manhattan, also "wampun" (from one of the New England Indian dialects, according to Prof. A. F. Chamberlain). Yet to this time the wampun is used for payment in the United States, as Dr. Dorsey showed to the members of the Congress of Americanists in the Field Columbian Museum at Chicago, namely, by the Pomo tribe in California; wampun was also used for embroidery and ornamentation, and in record belts. The following extract may give an idea of their interest in the New Netherlands (see the records of New Amsterdam, Vol. I, 1897, Translation of the Minutes of the Court of Burgomasters and Schepens, published under the authority of the city of New York by the Knickerbocker press, page 15):

"Whereas we see, and for some time have seen, the decline and depreciation of the loose wampun among which is found much unpierced and only half-finished, made of stone, glass, bone, shells, horn, nay even of wood and broken—"

"Therefore we have resolved that henceforth no loose wampum shall be current unless strung upon a wire." "trade wampum shall pass as good pay as heretofore at the rate of six white or three black beads for one stiver" etc. Done, resolved and decided this 30th of May, 1650, at our meeting in Fort Amsterdam, New Netherlands.

In the "Beschryvinge van Nieuw—Nederland," by Adriaen van der Donck, 1655, we are told, however, on page 68 that *gold and silver currency* comes more and more into use in the colony. Miss Harriet Phillips Eaton mentions in her interesting book "Jersey City and its Historic Sites" that *wampun* was used among the white colonists until late in the 18th century and that the Dutch early manufactured wampun at Hackensack.

Another way of paying was in *beavers* (beaver-skins), as follows from the provisional instructions for the sheriff, burgo-masters and schepens, of the city of Nieuw-Oranje (New Orange), done 15 January, 1674, mentioned and translated in : "New Amsterdam, New Orange, New York," by Charles W. Darling, 1889: "All cases relatively to the police",—etc., "shall be determined by definite sentences by the schout, burgomaster and schepens, to the amount of fifty beavers and below it"—etc. The same author says that about the same years the government officers were paid in *seawant* or *beavers*. Traders were given 10 or 11 guilders in loose wampun for a beaver (Records of N. A., page 10) and one American dollar was worth eight guilders in seawan (Miss Eaton).

About Dutch Guiana (Surinam) I found incidentally, that in that colony *sugar* was a medium for payment, at least between the colonists and the Government, the West India Company. My only proof is a pamphlet entitled: "Consideration van Bewinthebberen der Generale Geoctro yeerde West-Indische Compagnie deser landen over de Directie van de Colonie van Suriname ende het Gouvernement van den Heer van Sommelsdyck aldaar," probably published in 1688, which I got at an auction.

In a list, dated "Surinamburgh, a name soon replaced by the (most probably old Indian) name Paramaribo, 28 April, 1683, a great number of colonists are mentioned, who were indebted to the Noble "Geoctroyeerde West-Indische Compagnie", at the Chamber of Amsterdam, for the purchase and delivery of slaves

from the ship d'Orange Boom (the Orange Tree), for men and women, at three thousand pounds, "the price" 455800 pounds of *sugar*. In the list we meet with the names of families still living in the colony, Nassy, de Silva, de Mesa and Monsant, from Portuguese-Jewish origin.

And now for British Guiana. In 1730 the directors of the colony of Berbice made a representation to their High Mightinesses of the States that the colony should be placed on the same footing as that of Surinam. Thereupon in 1732 an octroi made its appearance which empowered the directors to enact a capitation tax. This capitation tax, consisting of *fifty pounds* of *sugar*, or cash equivalent to 50 stivers, was exacted indiscriminately from the whole population, both white and black, children under ten years being charged only half that amount. These facts are given by H. G. Dalton in his *History of British Guiana*, London, 1855, page 187-189, and give some probability that about the same time sugar was still in use as payment in the colony of Surinam.

A Brief General Survey about the Early Contact between the Dutch and the New World.

BY

L. C. VAN PANHUYS.

Going from North to South, the expeditions, made in the beginning of the 17th century, to discover a way to China and Japan round the North, must be first mentioned. In 1609 the East Indian Company had sent out Henry Hudson, who sought a passage from 40° N. L. along the coast Northward and specially visited the Hudson river; he was followed (or perhaps preceded) by Christiaenz. van Cleef, who visited the same coasts again in 1612 and 1613 with Block and Ryser. In 1611 Superintendent May, sent out by the Admiralty of Amsterdam, discovered the coast of Nova Francia between 46° and 42° 30' N. L. The Dutch historian de Jonge says that about 1614 Street Davis, Groenland and the Hudsons-bay were brought in chart by Dutch seamen. The trade on the Hudson and the Delaware increased in 1616, but it need not be mentioned here how the colony Nieuw Nederland was established by the Dutch, was lost in 1664 and was again in her possession from 1673 till 1674. The town New-York was called in that short time Nieuw Oranje.

The following West-Indian islands came into possession of the Dutch: Curacao (1634), Bonaire, Aruba, the half of St-Martin (1648), St-Eustatius (taken by the same admiral Evertsen, who reconquered the New Netherlands in 1673) and Saba (1667); Tobago, St-Croix and Tortola only for a time. It will be found interesting for Americans that Curacao was governed for seventeen years, together with Nieuw-Nederland, by the same Director, the well-known Stuyvesant, and a curious tradition is mentioned by Mr. Hamelburg in the Proceedings of the Curacao Historical Society, that Stuyvesant's leg would be buried at Curacao.

Truxillo and San Francisco on the coast of Honduras were

taken in 1633, but soon abandoned; with the small town Sisal in Yucatan this happened in 1624 and in 1632.

Trading-establishments on the coast of Guiana were formed in 1628 at Cajana, in 1627 at the Oyapoek, and about the same year in Berbice, Essequibo being already at that time the beginning of a colony. Surinam became Dutch in 1667, as a compensation for the ceding of the New-Netherlands.

Voyages were already made to Brazil before 1590. In 1599 the Dutch tried in vain to settle on the Amazon, but from 1624-1654 they were in possession of what was then called Brazil.

Two ships, *de Gouden en de Silveren Werelt* (the Golden and the Silver World) visited Rio de la Plata and Buenos Ayres about 1599.

In 1598 the voyages by the Dutch through the strait Magelhaens to East-India began. Van Noord passed in 1598 through the strait and sailed round the world; van Spilbergen followed in 1614 and destroyed a royal armada on the coast of Peru; le Maire discovered strait Le Maire, Barneveld-land¹ and was the first who doubled America's southern point Cape Hoorn (and not Horn) which received its name from his ship, built in and sent out from the small town of that name on the *Zuiderzee*. Jacques l'Hermite sailed the west coast of South-America and burned down the city of Guyaquil. Brouwer sailed from Brazil to Chili in 1643.

The above is only a short summary. The Dutch authors, who have described these sea-voyages, and who have noted down the early history of the Dutch colonies named, often give valuable information about the early ethnology of the two Americas.

¹ Called so after the *Roadpensionaris van Olden Carneveld*.

A Comparative Study of Two Indian and Eskimo Legends.

BY

SIGNE RINK.

Led by the same motive as mentioned in my expressed hope of exhibiting, at the earliest possible date, to famous *Americanistes*, the pictorial work of native Greenlanders, I venture to forward some (I am sorry to confess, too hurriedly written) treatises on a subject alike interesting to students of Indian, as of Eskimo, folk-lore, the subject being a comparison between a couple of well-known Eskimo traditions and a couple of no less popular Indian tales.

The similarity between the tales of the Greenlanders and those of the American Indians are more than extraordinary.

Such common elements of tradition as are known in all corners of the world and stated by way of explanation, as being founded on the fact that the human mind is capable of conceiving alike ideas anywhere in the world, must lead us, naturally, to assume their existence among the gifted Greenland Eskimo, too. Such is indeed the case. Still it is not those accumulations of common ideas, however eloquent in themselves, but a unification of the same that enables us to decide clearly whether a certain tale should be considered as having originated in Greenland itself or as having been conveyed by the ancient forefathers of the Greenlanders, from far off countries, be it America, Polynesia or Asia. Time has taught me that a great many of the Greenland tales—and, especially so, the most important and popular ones, have been derived from those in the above-named parts; and, when sprung from Indian sources, have only been gradually adopted and framed into their subsequent Eskimo form. This discovery will, when once sufficiently studied, serve as a useful guide in our efforts to trace the order in which the migrations of the Eskimo took place.

But we are in sad want of the legends from the east coast of Asia, and this tends to hamper greatly our efforts to discover the entire facts relative to the interesting tribes of the Eskimo. As far as my investigations reach, I can not find more than what I venture to call *one and a half* tradition from East or North Siberia; yet, even from this or these trifling bits of tradition we may draw important conclusions regarding the migration of the Eskimo, and the population of Greenland, *i. e.*, with regard to the way in which Greenland has been populated. The traditional tale of North Siberia I am alluding to is the one of *Krachai*,¹ well known to all ethnologists. It is briefly as follows:

The man-killing hero *Krachai* was a great chief of the *Ohkilon* (Ankilun, I suppose, a tribe similar to the Eskimo). Pursued hard by the *Tchukchee*, on account of his murder of a chief's son, *Krachai* was obliged to fly across the icefields of the Polar seas, accompanied by the whole of his tribe. Tradition places his new home in Wrangelland of the present day, its older description being the "land of the Krachaiaans," *i. e.*, the land of the subjects of *Krachai*. From this great island, north of Siberia, his descendants may have, in the course of centuries, subsequently conveyed the famous name of their ancient Asiatic leader into Greenland (via Baffin Land, Smith Sound and Cape York), for I strongly believe in the existence of the name "Krachai" in Greenland, now corrupted into "Kagssuk," or "Kragssuk," as the same authors would probably have spelled it who put down originally "Krachai" instead of "Kachai," in order to emphasize, it may be, the so-called "guttural" sound of the "K" by adding an "r" (the common way followed by Europeans, who are unacquainted with the signs invented for distinguishing this letter from the *hard k*).

From the fact of the northern Eskimo—both of Siberia and Greenland—having so faithfully preserved both the name and the few, but imposing, events and facts attached to it, I see a confirmation of my idea that the Asiatic *Krachai*, the great manslayer, was much more than a chief of the common order, and much more than an ordinary migration-leader. I presume that he has been, indeed, an extraordinary leader of migration, a leader of different races of North Siberian peoples, that he has

¹ About *Krachai* see Wrangel, and Sir Clemens Markham: "Arctic Papers."

been the first and, it may be, the only one of the leaders who ever advanced directly beyond the borders of the Northeast Siberia, northward into the arctic regions without treading first on American soil, or, in other words, without having crossed Behring Strait.

The tale of Kagssuk is as popular all over Greenland as appears the one of Krachai to be on the coasts of North Asia, and as it would probably be found to be in Kamtchatka, too, if we only had the means of finding it out. As the original, *viz.*, the Siberian version, will be more fully referred to in another of my notes, I need not comment on it at present. I will here simply emphasize that, although the most marked influence upon Greenlandic tales and traditions seems to be American, and partly Polynesian, we must not reject the suggestion of our being eventually, able to retrace a number of them back to Asia, if only the way were open to us. Further, I want to point out that "Kagssuk," the Greenland form of the Siberian name Krachai, *i. e.*, according to myself only, is not to be confounded with that of an equally popular Greenlandic hero, *viz.*, Kagssagssuk, whose history is not of Asiatic but decidedly of American origin, as we shall see soon—this tale, as it happens, being the latter of the two Greenlandic legends which I am now going to compare and identify with what I believe to be their original sources, *viz.*, a couple of Indian tales from the coasts of the Pacific precincts of British Columbia and the quarters of the Haida Indians.

In both cases the originals, or the Indian tales, are quoted from the *Journal of the American Folk-lore*, and the Greenlandic versions from "Tales and Traditions of the Eskimo," by H. Rink.

AN ABSTRACT OF THE JĒLCH-LEGEND.¹

Einst, so hörten wir, lebte ein mächtiger Häuptling, der eine junge Frau hatte, auf welche er sehr eifersüchtig war. Er hatte aber auch eine Schwester² deren zehn Söhne er, einen nach dem anderen, tötete, damit sie nicht einst nach dem Brauch der Tlinkit, seine Frau als Erbe erhielten. Aus Gram über den Tod ihrer Söhne ging die Schwester in den Wald, um sich selbst zu töten. Hier begegnete ihr ein alter Mann, welcher sie nach der Ursache ihres Kummers fragte und ihr, nachdem er dieselbe erfahren hatte, folgenden Rat gab: Gehe zu Ebbezeit an den Meeresstrand, such einen runden Kieselstein, mache ein grosses

¹ Aurel Krause. Die Tlinkit Indianer, pp. 254, et seq.

² von Weniaminow *kitchu-ginsi*, d. h. "Tochter eines Yeertieres."

Feuer und erhitze ihn darin; dann nimm ihn heraus und verschlucke ihn ohne Furcht; er wird dir keinen Schaden thun.¹

Die Frau that alles nach dem Rathe des Alten, und da sie schwanger wurde, baute sie sich an demselben Orte eine Hütte, in der sie einen Sohn gebar, welcher zu einem schönen Knaben heranwuchs. Dieser war aber jëlch. Einen Stein, den sie von dem Greise erhalten hatte, legte sie unter seine Kehle, und machte ihn dadurch unverwundbar. * * *

Als der Knabe grösser geworden war, machte ihm seine Mutter Bogen und Pfeile, mit welchen er erst kleine Vögel erlegte.

(*Version Lütke*.—Seine Mutter erzog ihn mit Sorgfalt und lehrte ihn kleine Vögel zu schiessen. Zuerst tödtete er eine Menge Kolibris um seiner Mutter ein Kleid zu machen. Dann tödtete er einen grossen weissen Vogel, zog seine Haut an und in der Freude darüber Flügel zu haben, empfing er den brennenden Wunsch wie ein Vogel fliegen zu können.)²

Einst fragte jëlch da er herangewachsen war, seine Mutter wo ihre Freunde und Verwandten wären. Sie aber antwortete ihm dass sie alle gestorben wären. Eines Tages jedoch kamen zwei Sklaven des Oheims, welche von diesem ausgeschickt waren, die Gebeine seiner Schwester zu suchen, die er tot glaubte. Sie fanden aber ihre Hütte mit Vorräten angefüllt, während sonst überall Mangel herrschte.

Dies berichteten nach ihrer Rückkehr die Sklaven dem Oheim und erzählten ihm auch, dass die Schwester einen sehr schönen Sohn hätte. Der Oheim sandte seine Sklaven sogleich nochmals aus, damit sie diesen Sohn, seinen Neffen, einladen sollten, ihn zu besuchen.

Als aber die Sklaven diese Einladung überbrachten, warnte die Mutter ihren Sohn (Jëlch) davor, dieselbe anzunehmen, indem sie ihm erzählte, dass ihr Onkel bereits zehn seiner Brüder getötet hätte. Jëlch erklärte jedoch, er würde dennoch gehen, sie aber möchte unbesorgt sein. Darauf folgte er den Sklaven, indem er eine Fuchsdecke, eine Marderdecke und eine Renntierschürze mit sich nahm; seine Mutter aber ging ihm nach.

¹ Weniaminow sagt dass Kitchinginsi an den Strand ging, und dass ein Walfisch ihr den Rath gab.

² Einst erlegte er wie Weniaminow berichtet, einen grossen einer Elster gleichenden Vogel, Kuzgatuli d. h. Himmelsvogel. Diesem zog er den Balg ab, durch welchen er die Fähigkeit des Fliegens erlangte.

Als jêlch in die Hütte seines Oheims eintrat, sah er die Frau desselben, welche ihm sehr wohl gefiel. Der Oheim aber war so eifersüchtig auf seine Frau, dass er dieselbe, wenn er wegging, in einen Kasten einschloss, welchen er an einem Dachbalken aufhing, indem er den Knoten in einer besonderen Weise schürzte, so dass er immer erkennen konnte ob irgend jemand ihn aufgeknüpft hatte. * * * Der Oheim forderte nun seinen Neffen auf, sich neben ihm niederzulassen und liess dann von seinen Sklaven das Brett holen auf welchen er die anderen Brüder abgeschlachtet hatte und das sägeartige Messer, dessen Schneide aus Glas bestand, und bemühte sich den Hals desselben zu durchsägen. Aber alle Zähne der Säge brachen ab und der Jüngling blieb unverletzt. Darauf sagte der Häuptling (der Onkel), dass ihm kalt wäre, und er verlangte von seinem Neffen, dass er einen, hinter der Hütte befindlichen Baum fälle, und mit dem Holz desselben Feuer anmache. Die Mutter warnte ihn davor dies zu thun, da er unter dem Baume die Gebeine seiner Brüder finden würde. Doch jêlch ging hinaus und fing an, den Baum, neben dem die Gebeine seiner Brüder lagen, umzuhauen. Da fielen gläserne Splitter auf sein Haupt, denn der Baum bestand aus Glas; jêlch aber achtete ihrer nicht, und alle zerschellten auf seinem Kopfe, ohne ihn zu verletzen. Darauf sprach der Häuptling zu jêlch: "Komm mit mir, und hilf mir, mein Canoe auszuspitzen." Trotz der Warnung seiner Mutter folgte der Jüngling auch dieses mal dem Oheim, und auf das Geheiss desselben kroch er unter das Canoe, um es weiter auszudehnen. Da nahm der Häuptling schnell die Querhölzer weg, sodass die Seiten zusammen schlugen, und ging dann, in der Meinung, dass sein Neffe sich nicht wieder aus dem Canoe befreien werde, nach Hause. Jêlch aber zerbrach mit Leichtigkeit das Canoe, dann nahm er beide Hälften auf seine Schultern, trug sie zu seinem Oheim und warf sie ihm vor die Füsse.

Nun sagte der Häuptling, dass er gern einen Tintenfisch essen möchte. Jêlch machte sich nun heimlich ein kleines Canoe, das er unter seiner Decke verbarg. Dann fuhr er in einem Canoe mit dem Oheim auf den Fang des Tintenfisches aus. Als jêlch nun, der an der Spitze des Bootes stand, den Tintenfisch fangen wollte, brachte der Oheim das Canoe ins Schwanken, so dass der Jüngling in das Wasser stürzte; dann kehrte er, in dem Glauben, dass der Neffe ertrunken wäre, nach Hause zurück. Da es be-

reits dunkel geworden war, hatte er nämlich nicht sehen können, wie jêlch sein kleines Canoe hervornahm und dasselbe unter sich that. Jêlch fing noch erst den Tintenfisch und ruderte dann an den Strand. Darauf brachte er den Tintenfisch seinem Oheim und warf ihn ihm zu Füssen. Da schwoll der Tintenfisch auf und wurde grösser und grösser, bis dass er das ganze Haus erfüllte. Zugleich stieg das Wasser, die Flut drang herein und alle Menschen kamen um. Jêlch aber zog seinen Vogelbalg an und flog so hoch dass er mit seinem Schnabel an den Himmel stiess und zehn Tage lang an demselben hängen blieb. Als nach dieser Zeit das Wasser sich wieder verlief, liess er los um auf die Erde herabzukommen. Nach dem er auf ein Haufen Tang heruntergefallen war, ging er ans Land fand aber nirgends süsses Wasser, bis er an das Haus eines Mannes, mit Namen Kanuk, kam. Dieser hatte Wasser in einem kleinen Kasten, den er immer verschlossen hielt und auf dem er selbst zu sitzen pflegte. Kanuk gab zwar dem jêlch etwas zu trinken. Ein anders Mal aber stahl jêlch selbst Wasser aus dem kleinen Kasten, flog dann davon und setzte sich auf einen Harzbaum. Der erzürnte Kanuk aber sammelte alles Pechholz unter dem Baume und zündete ein grosses Feuer an. Von dem Rauch desselben wurde jêlch schwarz, während er bisher weiss gewesen war.

ERNISUITSOK OR THE BARREN WIFE.¹

A man had a wife who begat him no children. The husband, who was envious of all the people who had children, one day told her to make herself trim and nice and walk on to a certain spot where an old man, who had given up seal-hunting, had his fishing place. This old man, however, was a great magician. The next day when he sat fishing in his *Kayak*, a little way off the shore, she appeared on the beach, dressed in her best. But as the old man, afraid of her husband, would not approach her, she soon returned. The husband himself now went to the old man and promised him half of his catch if he could think of some means whereby to get children. When the wife appeared on the beach the next day the old man instantly made for the shore and went up to her. From this day forward the husband always put by half of his catch, viz., the seals he caught, for the old man; and when he noticed that his wife was enciente he, in his gratitude, asked the

¹ The following story is the English translation of the Greenlandic Tradition in which I mean to recognize the above-told Indian tale.

old man to take up his abode in their house, that they might entirely provide for him, upon which the old man rejoined: "Thy wife will bear thee a son"—"so to-morrow when thou goest out kayaking thou must row to the birds-cliff and get hold of a bird,¹ which he shall use for an amulet."

On the following day when the husband had brought the bird the old man went on: "Farther thou must fetch a hollow stone of a black color on which the sun has never shone"! And, when he had also brought this, the old man said: "Finally thou must go to thy grandmother's grave and bring home her collar bone."

When all these things had been gathered the wife brought forth a son, who was named *K'ūjavârssuk*² by the old man, and the stone was put close to his feet, but the bird was stuck up above the window.

The old man soon told the father to provide a *kayak* for the boy and have it ready, fitted up with utensils and all other requisites for the hunt. So the father made the kayak, and even before the skins with which it had been covered had time to dry it was put in the water and the boy being placed in it, they shoved it off the beach. The old man now told what would happen to him, saying: "The very first time he goes out one of the 'quiet sort' of seals will rise to the surface and he shall not return home until he has captured ten of them, and in future he will always get ten seals when he goes out kayaking." The old man and the father now followed him closely, but as soon as they left him at a little distance a seal popped its head above the water, and he paddled on and harpooned it, at which the bachelor-old-man was quite transported, and from this time the boy began to hunt regularly. (Ill. 197.) When he was grown up he took two wives, and he became of great use to his housefellows and neighbors. In times of need he was their only provider.

It one day happened that his wives had only put by a piece of the back of the seal, instead of the briskets, for his mother's brother, who was expected to come home later in the evening. He was offended at this want of attention on their part, and resolved to make (by help of sorcery) a "*tupilak*" for *K'ūjavârssuk*.

¹ This bird is in the different versions called *Toogdlik* sokaitsak, both and especially so the first one (*Colymnis glacialis*) being the largest of divers in Greenland.

² Besides the name given to the hero of the present tale *viz.*, *Kujavârssuk*, other versions of it name him *Sanguak* = *Sangiak* and *NerngoJORak*.

To this end he gathered bones of all sorts of animals, out of which he fashioned it in such manner that it could take the shape of different animals, of birds as well as of seals; and having stirred them into life he let the thing loose and ordered it to persecute *Kūjavārssuk*. First it dived down into the sea and again appeared to him in the shape of a seal; but he was then already on his way home, and when it approached him he was in the very act of drawing his kayak on the shore. The same things happened on the second and the third day. The "tupilak" now determined to pursue him to his house, and then frighten him to death. It transformed itself into a loogdlik and commenced shrieking outside the house. *Kūjavārssuk* went out, but as he could not be brought to look at it the charm would not work. It then resolved to go underground and pop up into the room. However, it succeeded no better this time, but rose at the back of the house and just as it was about to climb up the roof it met his own amulet-bird which at once set about picking and scratching its face. It now, however, turned desperate and thought, "Why did this miserable fool of a man (the uncle of *Kūjavārssuk*) ever make me"? And in the height of his wrath it turned against its maker. Diving down into the water near his fishing place it emerged right beneath his kayak, and, fairly upsetting it, devoured him on the spot. It now fled far away from the habitations of man, out on the roaring ocean. *Kūjavārssuk* afterwards remained unmolested.

From abstracts or versions not to be quoted *in extenso* here, I shall only put down a few striking points not cited in the former, those which I consider to be perhaps the latest corruption of the tale, because, as to the form of construction, it is, at the same time, the most realistic and most coherent. (In order to make account for the second illustration of the woman's rendezvous with the fisherman-magician, I repeat the text to this scene from another version of the tale, otherwise less complete than the one already told.)

1. A man whose wife could beget no children was advised by an old wiseman to set off in his kayak and go out to the open sea, and when he heard a voice like that of a child crying he was to proceed in that direction, and would then find a worm which he was to take home and throw upon the body of his wife. She soon after gave birth to a son, who was called *Sanguak* or *Nern gojorak*.

2. Once upon a time the hero of these tales visited another place at a moment when the inhabitants were in train with pursuing whales. *Sanguak* or *Kūjavárssuk* felt a strong desire to go too, and getting hold of some children he manned a boat with them and left shore.

The other boats, meantime, had stood farther out to sea, and the people shouted to him, "If thou art on the look-out for the whale thou must come out to us,—he'll never rise where thou art now"! But *Sanguak* did not mind them and stayed where he was, his mother having said to him: "I conceived thee on the seashore, and for this reason thou shalt watch thy chance near it."

In a little while a whale appeared close by, and he at once pursued and harpooned it, and the beast could not even draw his bladder under water.¹ Again the people on the other boats cried "If thou wilt not loose it thou must pursue it more seawards"! But he only replied: "All the animals of the sea that I am going to pursue will seek towards the shore, close to my dwelling-place." Thus he was left alone to kill it all by himself.

3. Once *Sanguak* happened to be acquainted with another seal-hunter who could also take two seals at a time, but only by means of two harpoons which he threw, one with each hand, at once, whereas *Sanguak* himself, in throwing but once, got the whole shoal. One day when he went out with the double-armed sealer alone to sea he picked a quarrel with him, and killed him. He next told his father what had happened and that he would go and denounce himself and give the relatives of the double-armed notice of the murder. Those would fain have avenged it, and during his stay in their tent he found himself surrounded by lots of men—all knife in hand. Yet gleaming a chink between the tent-poles he had the chance to make a bound across their heads into the open air whereupon he ran down to the beach to his kayak, which his enemies had all spoiled by cutting holes in its bottom and filled it with stones. But *Sanguak* stopped the holes with the very stones and returned home safe and sound.

SCANNA GAN NUNCUS. LEGEND OF THE FIN-BACK WHALE CREST
OF THE HAIDAS, QUEEN CHARLOTTE'S ISLAND, B. C.

It has long been related among the *Haidas* that at Quilcah,

¹ This is alluding to the supernatural strength of the hold or gripe in the line held by the man.

where the oil-works stand, about three miles west from the village of Skidegat's Town, lived, long ago, a boy who dwelt with his aged grandmother. He was the youngest of a family of eleven sons, both his parents being dead, and also his brothers, of whom I shall say more by and by. Excepting himself and the old woman, no other person lived in that place, all the other Indians in that quarter being on Mand Island. Our hero and his grandmother belonged to a different crest from the others. Close to the spot where they lived were three stone boats or canoes. What is meant by these I do not know, unless it be canoes made entirely by hot stones and stone hammers, as used to be the case in by-gone ages. This boy, it seems, was so weak and sickly that he could neither stand upright nor walk. The weakest part were from the knees down.

One day he said: "Granny, put me into one of these three canoes," and this she did. After sitting in the canoe for a considerable length of time he became quite strong, and was able to walk like any other person.

After becoming strong he used to swim about in the bay. One day, instead of a swim, he concluded to have a sail, and with this idea got his grandmother's aid to put one of them into the water. While this was being done two of them broke, but they were successful with the third. After this, instead of swimming, he used to sail about on the bay, gradually venturing farther and farther from the shore.

One day, making a further venture than usual, he sailed up the Hunnah river, a mountain stream emptying its water into Skidegat channel, four or five miles west of the place where he lived.

Tradition says that this river in olden times was three times larger than it now is. At present there is seldom water enough to float a canoe. It is also related that the waters of the sea came higher up on the land than is now the case. (Of the rise of the land evidence is everywhere to be found.)

After pulling up the river he became tired, so in order to rest he pulled ashore and lay down. In those days at the place where he went ashore, in the bed of the river, were a number of large boulders, while on both sides of the stream were many trees.

While resting by the river he heard a dreadful noise, up stream, coming toward him. Looking to see what it was he was surprised to behold all the stones in the river-bed coming down to-

ward him. The movement of these frightened him so much that he jumped to his feet and ran into the timber.

He found he had made a mistake, because all the trees were cracking and groaning, and all seemed to him to say: "Go back, go back at once to the river and run as fast as you can." This he lost no time in doing. When again at the river, led by his curiosity, he went to see what was pushing the stones and breaking the trees; on reaching them he found that a large body of ice was coming down, pushing everything before it. Seeing this he took his canoe and fled towards home.

Some time after this adventure with the ice, Scanna gan Nun-cus took his trusty bow and quiver filled with arrows and went out in order to shoot a few birds.

Walking along the shore he saw at a distance what seemed to be a man, standing on the shore at the edge of the bushes, looking at him. Wondering who the stranger could be, he walked over toward him and hailed him. Receiving no answer, he went up to him and was surprised to find only a stump with a curving dome resembling a man's head. Turning to go away, a voice which seemed to come from the head said: "Don't go away; take me down, take me down." Hearing these words he took the stump in his arms, pulling him down at the same time. I say him because it was a man under enchantment. Taking him down broke the spell, and he instantly became himself again.

When thus restored, he told our hero that long ago he had been taking liberties with the *Cowgans*, who, as a punishment had cast upon him a spell, under the influence of which he was to remain as a stump until a young man, who lived with his grandmother, would come and set him free, and he, our hero, was the person predicted. The Cowgans, or wood-nymphs (literally wood-mice), were said to be a number of beautiful young women whose homes were in the woods and among the mountains. At the head of these was a queen who was remarkable for her beauty, and who lived in a magnificent palace in some unknown locality.

In order to discover the palace and to see the queen, a thing permitted to none except those who could show some act of kindness done, the young man used to go to the woods and mountains, from which quest many never returned, and of this number were the ten brothers of our hero. These nymphs, it also appears, used to seek the company of young men, and lead them

to take liberties with them, and when tired of their services would turn them into stumps.

The stump man asked our hero if he would like to see the queen and her palace, to which he answered yes.

"Well, then, go your way until you find a lame mouse trying to run on a big log, be kind to it, and it will show you what to do and where to go."

After leaving the stump man, our hero did not go far until he saw a poor lame mouse trying to run along a large log of wood; he watched it for a while, and saw that it would run a little way and then fall off. Seeing this, he went and picked it up, put it on the log and set it going again; this he did several times. At last it stopped trying and told our hero: "You are a good man and a kind one. Instead of killing me, every time I fell off the log you picked me up and put me on again. Many a one would have chased me and tried to kill me, but you did neither. I am not lame; I only feigned lameness in order to try you. You are Scanna gan Nuncus, and you would like to see the queen of the Cowgans. Your ten brothers also wished to see her. They could not because they were bad men; they ran after me and tried to kill me. No bad men can try to kill me and see the queen and live. That was why they all disappeared so mysteriously. By trying to put me out of the way they all met the same fate. Now, come, follow me, and I will show you the queen and her palace."

The mouse led and our hero followed, through long grass, bushes and timber, until they reached a beautiful country, where everything was fair and young. After traveling across this region for some time they came to the palace. Anything so beautiful Scanna gan Nuncus never saw, nor ever could picture in his imagination.

"Now," said the mouse, "let us go inside, and I will introduce you to the queen of the Cowgans." This it did, telling her that he was a good and kindly man who, unlike his brothers, did not run after it and kill it.

When they found the queen she was sitting spinning with a wheel. She was so pretty and fair to look on that our hero nearly forgot himself. The queen made him welcome, left her spinning, and came and sat beside him, telling him that as he was a good man he should be always welcome to her palace and whenever he decided to visit her he had only to come to the log, and he

would find her servant, the mouse, who would show him the way. How long he stayed with her I have as yet been unable to learn. This much I can say, that his grandmother asked him where he had lived so long. He replied that while absent he had been where few or none had ever been before; he had visited the queen of the Cowgans.

After closing this paper, I find it necessary, for the proper understanding of a few points mentioned therein, to say a few words drawn from my own observation and research, and from the report of Prof. G. M. Dawson, of the Canadian Geological Survey, who spent a part of the summer of 1878 among these islands. I wish particularly to call the attention of thinking men and women to our hero's encounter with the ice.

Who was the author of the story, or when it was adopted by the Scannas, I cannot say. Doubtless a tradition of ice coming down the valley of the Hunnah was current at the time when the Scannas chose that fish as their crest. This event happened very early in the settlement of these islands, for tradition says that at that time only one or two families lived on the southeast side of these islands, and that, excepting our hero and his grandmother who lived at Quilcah, all the others dwelt in a small village on Mand Island, a mile and a half away.

The Hunnah is a stream flowing eastward and southward until it falls into the channel from the axial range of mountains of these islands. Professor Dawson says that everywhere in the islands we find evidence of the descent of glacier ice from the axial range to the sea, and describes a number of valleys where action of ice on their hillsides is plainly shown. He also shows from the evidence given that the final retreat of these valley glaciers would seem to have been pretty rapid. A few years ago I took an Indian with me up the Hunnah valley, in order to see for myself the effects of glacial action. After observation I agree with Professor Dawson, as well as with the tradition, that the retreat of the glacier down this valley from the place of its birth at the headwaters of the Hunnah must have been pretty rapid. The great glacial period lingered longer in these islands, or else a smaller glaciation must have taken place. Whether this had anything to do with the legend, may be a matter of opinion.

Up to within a few years ago, it was customary when a bevy of girls were going to the woods or mountains, to say: *Cooso tu*

toggan Cowgans? "Where are you going, to Cowgans?" The mode of spinning among the Haidas was with a spindle and disk or wheel, like various tribes in other parts of America.

KAGSAGSUK.

There was once a poor orphan boy who lived among a lot of uncharitable men. His name was Kagsagsuk, and his foster-mother was a miserable old woman.

These poor people had a wretched little shed adjoining the house-passage, and they were not allowed to enter the main room. Kagsagsuk did not even venture to enter the shed, but lay in the passage, seeking to warm himself among the dogs. In the morning, when the men were rousing their sledge-dogs with their whips, they often hit the poor boy as well as the dogs. He then would cry out: "Na-ah! Na-ah!" mocking himself in imitating the dogs. When the men were feasting upon various frozen dishes, such as the hide of the walrus and frozen meat, the little Kagsagsuk used to peep over the threshold, and sometimes the men lifted him up above it, but only by putting their fingers into his nostrils; these accordingly enlarged, but otherwise he did not grow at all. They would give the poor wretch frozen meat, without allowing him a knife to cut it with, saying his teeth might do instead; and sometimes they pulled out a couple of teeth, complaining of his eating too much.

His poor foster-mother procured him boots and a small bird-spear, in order to enable him to go outside the house and play with the other children, but they would turn him over and roll him in the snow, filling his clothes with it, and treating him most cruelly in other ways; the girls sometimes covered him all over with filth. Thus the little boy was always tormented and mocked, and did not grow except by the nostrils. At length he ventured out among the mountains by himself, choosing solitary places, and meditating how to get strength. His foster-mother had taught him how to manage this. Once, standing between two high mountains, he called out: "Lord of Strength come forth! Lord of Strength come to me!" A large animal now appeared in the shape of an *amarok* (now a fabulous animal, originally a wolf), and Kagsagsuk got very terrified, and was on the point of taking to his heels; but the beast soon overtook him, and, twisting his tail round his body, threw him down. Totally unable to rise, he

heard the while a rustling sound, and saw a number of seal bones, like small toys, falling from his own body. The amarok now said: "It is because of these bones that thy growth has been stopped." Again it wound its tail around the boy, and again they fell down, but the little bones were fewer this time, and when the beast threw him down the third time, the last bones fell off. The fourth time he did not quite fall, and the fifth he did not fall at all, but jumped along the ground. The amarok now said: "If it be thy wish to become strong and vigorous, thou may'st come every day to me."

On his way home, Kagsagsuk felt very much lighter, and could even run home, meanwhile kicking and striking the stones on his way. Approaching the house, the girls who nursed the babies met him and shouted: "Kagsagsuk is coming,—let us pelt him with mud;" and the boys beat him and tormented him as before; but he made no opposition, and following his old habits, he went to sleep among the dogs. Afterwards, he met the amarok every day, and always underwent the same process. The boy felt stronger every day, and on his way home he kicked the very rocks, and rolling himself on the ground, made the stones fly about him. At last the beast was not able to overthrow him, and then it spoke: "Now, that will do; human beings will not be able to conquer thee any more. Still thou hast better stick to thy old habits. When winter sets in, and the sea is frozen, then is the time to show thyself; three great bears will then appear, and they shall be killed by thy hand." That day Kagsagsuk ran all the way back, kicking the stones right and left, as was his wont. But at home he went on as usual, and the people tormented him more than ever. One day, in the autumn, the Kayakers returned home with a large piece of driftwood, which they only made fast to some large stones on the beach, finding it too heavy to be carried up to the house at once. At nightfall, Kagsagsuk said to his mother, "Let me have thy boots, mother, that I too may go down and have a look at the large piece of timber." When all had gone to rest, he slipped out of the house, and having reached the beach, and loosened the moorings, he flung the piece of timber on his shoulders and carried it up behind the house, where he buried it deep in the ground. In the morning, when the first of the men came out, he cried, "The driftwood is gone!" and when he was joined by the rest, and they saw the strings cut, they wondered

how it could possibly have drifted away, there being neither wind nor tide. But an old woman, who happened to go behind the house, cried, "Just look, here is the spar!" whereat they all rushed to the spot, making a fearful noise, shouting, "Who can have done this? There surely must be a man of extraordinary strength among us!" and the young men all gave themselves great airs, that each might be believed to be the great unknown strong man—the impostors!

In the beginning of the winter, the housemates of Kagsagsuk ill-treated him even worse than before; but he stuck to his old habits and did not let them suspect anything. At last the sea was quite frozen over, and seal-hunting out of the question. But when the days began to lengthen, the men one day came running in to report that three bears were seen climbing an iceberg. Nobody, however, ventured to go out and attack them. Now was Kagsagsuk's time to be up and doing. "Mother," he said, "let me have thy boots, that I too may go out and have a look at the bears!" She did not like it much, but, however, she threw her boots to him, saying, "Then fetch me a skin for my couch, and another for my coverlet in return." He took the boots, fastened his ragged clothes around him, and then was off for the bears. Those who were standing outside cried, "Well, if that is not Kagsagsuk! What can he be about? Kick him away!" and the girls went on, "Surely he must be out of his wits!" But Kagsagsuk came running right through the crowd, as if they had been a shoal of small fish; his heels seemed almost to be touching his neck, while the snow, foaming about, sparkled in rainbow colors. He ascended the iceberg by taking hold with his hands, and instantly the largest bear lifted his paw, but Kagsagsuk turned round to make himself *hard* (*viz*: invulnerable by charm), and seizing hold of the animal by the fore-paws, flung it against the iceberg, so that the haunches were severed from the body, and then threw it down on the ice to the bystanders, crying, "This was my first catch; now flense away and divide!" The others now thought, "The next bear will be sure to kill him." The former process, however, was repeated, and the beast thrown down on the ice; but the third bear he merely caught hold of by the fore-paws, and swinging it above his head, he hurled it at the bystanders, crying, "This fellow behaved shamefully towards me!" and then, smiling another, "That one treated me still worse!" until they all fled

before him, making for the house in great consternation. On entering it himself he went straight to his foster-mother with the two bear-skins, crying, "There is one for thy couch, and another for thy coverlet!" after which he ordered the flesh of the bears to be dressed and cooked. Kagsagsuk was now requested to enter the main room, in answer to which request he, as was his want, only peeped above the threshold, saying, "I really can't get across, unless some one will lift me up by the nostrils;" but nobody else venturing to do so now, his old foster-mother came and lifted him up as he desired. All the men had now become very civil to him. One would say, "Step forward," another, "Come and sit down, friend." "No, not there where the ledge has no cover," cried another; "hear is a nice seat for Kagsagsuk." But rejecting their offers, he sat down, as usual, on the *side-ledge*. Some of them went on: "We have got boots for Kagsagsuk;" and others, "There are breeches for him." After supper, one of the inmates of the house told a girl to go and fetch some water for "dear Kagsagsuk." When she had returned and he had taken a drink, he drew her tenderly towards him, praising her for being so smart for fetching water; but, all of a sudden, he squeezed her so hard that the blood rushed out of her mouth. But he only remarked, "Why, I think she is burst!" The parents, however, quite meekly rejoined, "Never mind, she was good for nothing but fetching water." Later on, when the boys came in, he called out to them, "What great seal-hunters ye will make!" at the same time seizing hold of them and crushing them to death; others he killed by tearing their limbs asunder. But the parents only said, "It does not signify—he was a good-for-nothing; he only played a little at shooting." Thus Kagsagsuk went on attacking and putting to death all the inmates of the house, never stopping until the whole of them had perished by his hand. Only the poor people who had been kind to him he spared and lived with them upon the provisions that had been set by as stores for the winter. Taking also the best of the kayaks left, he trained himself to the use of it, at first keeping close to the shore, but after some time he ventured farther out to sea, and soon went south and northwards in his kayak. In the pride of his heart he roamed all over the country to show off his strength; therefore, even nowadays he is known all along the coast, and on many places there are

marks of his great deeds still shown, and this is why the history of *Kagsagsuk* is supposed to be true.

COMMENTS TO THE INDIAN *Yelch*-LEGEND—THE GREENLANDIC
ERNISUITSSOK OR THE BARREN WIFE.

From the total absence of the *Yelch*- or *Raven*-name in the Greenland-version of this tale, we may at once judge, that it has been forgotten by the natives of Greenland. Neither did I anywhere come across anything outside the legend that alluded to this name. It is, nevertheless, not impossible that such might still be found, for it is marvelous what mysteries are hidden behind the otherwise impenetrable veil of myths and folk-lore, which, when revealed, throw a light upon all that was formerly dark and dreary on account of its lifelessness, and render attractive and most interesting all that was otherwise commonplace and obscure. I was, however, fortunate enough to lift it a bit and perceived that if not the *Yelch*-name, the *raven*- or *Yelch*-*motive* in the legend of the Indian may have been introduced to Greenland, although unconsciously to the Greenlanders themselves—at least those of our day, and, in spite of its being kept totally apart from those abstracts of tales, which, I think, do otherwise so conspicuously represent the *Yelch*-legend.

We have, namely, the most indisputable proof of this in one of the favorite every-day phrases of the Greenlanders, *viz.*, "When the ravens turn white again" (I will do this or that, or this or that will probably occur). Now, this is a very Indian phrase, too. (See Krause: "Die Tlinkit Indianer".) It is easy to account for the origin of the proverb. We know, from the very myth, that *Yelch* was from the beginning dressed in his *white* skin, but afterwards turned *black* in the chimney-smoke of a certain malicious *Kanuk*.

When and where the legend of *Yelch* commenced to be corrupted and drop its original title is difficult to decide at present, even more so, I think, than to guess where the Eskimo first obtained it. Yet, to bring the answer to more than a mere guess, we must, above all, have a number of East-Siberian and Kamtschadalian myths spread before us. In Kamtschatka, certainly, there are found unequivocal traces of a Raven-component. (See Steller). There is, however, little or nothing directly stated respecting it; but the remarkable feature about it seems to me to

be, that this title also attaches itself to the *Deity*, as does the Raven-notion with the *Tlinkit*-Indians. The fact is that the Kamschadalian God *Kutka's* wife—Steller calls her *Chachy*—is always mentioned as wearing a cloak of raven-skin, perhaps in the sense of a “transformation-rôle.” (Yet Steller, who represents everything in a rational way, says “cloak” or “cape”). Anyhow, we must still let the question remain an open one.

East-Kamitchatka, and the parts of *America* situated opposite to it, are some of the places where the ethnological veil unfortunately is the thickest;—unfortunately, I say, because just there, great and important events must have taken place. According to our present knowledge of facts I am most inclined to believe that both of the stories treated here have been appropriated by the Eskimo on the American coast between California or Vancouver-Island and the Aleutian Chain.

Contrary to the facts gleaned by the student, we see (both verbal information and illustrations make it distinct to us)—that the Greenlanders have no perception left that any of the tales here cited ever belonged to any other people than themselves.

That the hero of the Greenland versions appears under different names, is merely due to migration, and to the circumstance that different tribes have chosen their names from such stages in the tale that have appeared most attractive or wonderful to them. This case then has nothing to do with the Indian *Yelch's* appearing under different names, whether *Nekilstlas*, *Kaugh*, *Chaoch*, (the same) *ch, ch*, for they all meant “*Raven*” to the various tribes who worshiped that Deity, and it could not be changed to convey any other idea. The Greenlanders, on the contrary, had nothing to do with worshipping their hero, we know; they merely admired.

Of the Greenland names, “*Sanguak*” and “*Nerngajorak*” are respectively for North- and South-Greenland the denomination of the reptile taken from the bottom of the sea, and by the bachelor-sage thrown upon the woman on the beach, whereas the name *Kūjavārssuk* is derived from the word “*Kujak*” = loin, or more probably from a certain derivation of this word (see Greenl. Dictionary of Kleinschmidt); the affix “*arssuk*” that forms the end of the word always conveys the meaning of something peculiar, absurd, out of the rule, or ridiculous.

Here a few words relative to the title “*Ernisuitsok*” or “The

Barren Wife." The choice of this title in itself is nothing particularly curious, but it is quite a characteristic feature in the Greenlanders, that they have, in order to make the prophecy of the supernatural incident as profitable as possible, designedly adopted the title so as to make the story apply, not to a helpless, lone woman, like in the Indian tale, but to a married couple. Why so? Why characteristic? Because it strongly betrays a distinct feature of their own character, *viz.*, their desire to get progeny—male progeny, *i. e.*, their desire to get supporters for their old age. Now, they consider it useless for a single woman to have a supporter, but a "family"—a family father *must*. So they naturally made the half-forgotten Indian *Kitksugini* the "Barren Wife" of a married, but childless man who needed a supporter for his old age. I suppose, at least, that the title *Ernisuilssok* or "Barren Wife" to have originated thus.

It is clear, too, that the Greenlanders have forgotten the lofty mission of the *Yelch*-mother, *viz.*, to give birth to a god; neither do they consider their hero as anything more than an extraordinarily clever hunter, so astoundingly clever that he could take from two to ten seals in one cast of his spear, while they themselves were satisfied if they brought home one.

Now for a few distinct comparisons between the legends.

(a-b) In the Greenland "old man" we at once recognize the *Yelch*-myth's "Der alte mann," who gave *Kitksugini* the supernatural advice to swallow the "hot stone". That which must not be overlooked is that the old man in the Greenland edition is mentioned as a "great magician" because it immediately raises the incident of the childless husband's appeal to the old fisherman to the higher standard of the *Yelch*-myth, where the point to be put weight on refers to the seeking advice from some higher Power, that which proved to issue in an "Old Man"; and according to *Wemâminow* in the "*Whale*".

The Greenland illustrations corresponding to this scene all represent the woman neatly dressed, as corresponding with the following words of the text: "And the next day, when the old fisherman sat fishing off the shore, she appeared on the beach dressed in her best." This circumstance that she was ordered so to do contains a point of importance, and is of great interest to students of comparative study. It is also made a great deal of by our Greenland artists, which is the cause of my possessing in my collection

of pictures no less than four representations of this scene, each showing the separate conception of its painter.

The mystic importance attached to the question of her meeting "smart and trim," shows that the lover awaiting her is no ordinary man but some Demi-God, and I cannot doubt that the allusion refers to the "Whale," the very "Whale" of the original Indian myth—the adviser of *Kitksuginsi* (see Krause, p. 254) synonymous, I suppose, with "der Alte Mann" of other authors, for the Greenlanders, even of our own day, still stick to the habit of making obeisance to the whale in the form of dressing smartly before they set out in their boats in pursuit of it; and there is no doubt that there has been a time when the Eskimo, like the Tlinkit-Indian and the Kamschadale, considered the whale as something more than a food animal.¹ As for the *Tlinkit* they do not even eat its flesh—this of course, because with them, the whale is really a sacred animal, a Totem, whereas the Eskimos greatly relish both the blubber, hide, and flesh of it.

(c) "Thy wife shall bear thee a son, so when tomorrow thou goest kayaking, thou must row to the bird's cliff and get hold of a bird which he shall use for an amulet." Here we cannot of course omit recognizing the Large White Bird of the Indian myth that gave the little "Yelch" the power of flight. Now the Otûgdlik (Cormorant), which was the bird given the Greenland boy for his amulet and so mentioned in other versions than the one here chosen, is the largest of Greenlandic sea-birds and one with an unspotted white breast. If now we would ask *why* the Greenlanders did not rather choose the snowy owl or some other entirely white bird for the purpose, the answer might perhaps be, in the first place as already intimated, because the one chosen, the Cormorant, was the biggest of fowls, and secondly, because, perhaps, of some faint recollection that there was once upon a time a certain Large White Amulet-bird whose pointed bill had even enabled it firmly to grasp the sky and thus keep dry and safe all through the period of the Great Flood that submerged all other beings on earth. Now, the owl has but a short and curved bill whereas the one of the "tûgdlik" is very long and sharply pointed.

(d) Here we get the "stone" that *Yelch's* mother got from the "Alte Mann" in the forest as genuine in representation as we can

¹ For the Kamschadalian Eskimo, see Steller, per the Kadjakian, Eskimo, see *Holmberg*.

wish for, only with the insignificant difference, that the Indian woman was ordered to put the "stone on the child's *throat*, while the Greenland "Old Man" the "bachelor" ordered it to be put under its *feet*. As every word here speaks for itself, showing the absolute resemblance between the tales of the two different nations in the point concerned, it needed, strictly speaking, no special pointing out, and I have paused at it only for the sake of a subordinate cause. It occurred to me whether the application of the "charmed stone" to the *throat* (in the Indian tale), and which was done, I suppose, to make the boy invulnerable, might perhaps refer to the cruel method of butchering of the Tlinkit-Indians, which method consists in placing a heavy beam across the victim's throat, it being weighted down by a throng of people for such length of time as they thought necessary for killing the victim—as do the Ainos to their sacred Bear. (See Bachelor and others.)

(e) Illustration 100.

(f) Look illustration 98. How evident! (comp. p. 5 from the German text) "Seine Mutter erzog ihn mit Sorgfalt und lerhte ihn kleine Vögel zu schiessen." If the Indian legend had been ever so beautifully illustrated, it would never have been able to produce a more complete illustration to this text than that of the Greenland artist. Moreover, the incident of the Wonder-child's careful training and early development to independence agrees clearly enough in all points of the texts of both people. *Yelch's* mother standing in the tent-door wearing white boots, and seeing the boy capturing birds among the great flock of birds, which probably even offer themselves voluntarily to him, render to the scene a certain solemnity. (White boots are still worn as holiday attire in Greenland.) The reason for her being in state-dress was of course the same as when she made herself trim prior to appearing before the old fisherman, or, the *W'hale transformed*, viz., out of reverence to a Supreme Being.

(g) Mark that the "offended" uncle of the Greenland tale is likewise the *Yelch*-uncle, a mother's brother. The plans of revenge of the Greenland uncle by making a so-called *Tupilak*,¹

¹ The Greenland *Tupilak* is a monster created by sorcery for the purpose of doing mischief to the enemy of its maker. Among the ingredients of the eventual monster, there must not want something or other belonging to the persecuted person, and especially desirable are those things that have been in direct contact with his body. As soon as the material form of the

calculated to do away with the hated nephew, by taking him un-
 awares, is, clearly enough, meant to represent the many different
 attempts of the Yelch-uncle to kill his sister's son, *viz.*, the one
 with "the shambles," "the glass tree," and so forth, all of which
 proved unsuccessful like the attempts of the *Tupilak*.

COMMENTS TO THE INDIAN TALE SCANNA GAN NUNCUS—THE
 GREENLANDIC KAGSAGSUK.

It will prove self-evident from the story I am now going to
 treat that, here, as in the case of the first ones compared, the
 Greenlandic ones are the versions or copies of the Indian tales and
 not the reverse.

(a) Both children are orphans, neglected by their natural pro-
 viders, and nursed by "old women", who are both versed in witch-
 craft, (*i. e.*, the wisdom of heathens). In *Scanna* this is expressly
 mentioned, while in *Kagsagsuk* it is merely indicated by the
 course of events. In the Greenland version there are several
 striking points introduced in order to glorify the feats and the
 person of the hero, or "Strong Man," this being the title usually
 given to the hero by the Greenlanders. That the development to
 "Strong Man" is more pronounced in the case of the Greenlandic
Kagsagsuk than in that of the Indian *Scanna* may possibly depend
 upon a whim of an accidental relator, but equally likely from the
 interest attached to other characteristics relating to the fact men-
 tioned above, those for all that referring to Indian customs, al-
 though not applied to the life of the Indian boy of the present
 tale. They evidently point to the system of the Totem of the
 Indians of the Pacific Coast, which we get confirmed by the fact
 that the "familiar spirit" or the supernatural power, sought for
 by *Kagsagsuk* is, even in the Greenland story, represented by the
 "Wolf" (the Amarok). As for *Scanna* he was of the whale tribe
 as we have seen. Another incident attached to the episode rela-
 monster is made, it is animated in order to be rendered capable of accom-
 plishing the desire of vengeance on his master. When, occasionally, it does
 not succeed in its attempt, it gets desperate and turns its wrath against its
 own master or maker. Every ethnologist will, no doubt, in this monster,
 and in the way it is created, easily recognize the similar apparition known
 in all parts of the world. In Baffinland, *Tupilak* is used for the restless
 spirit of the grave or man's soul on a certain stage of its wandering to the
 world of the dead in the regions of the Underworld.

tive to the Greenland boy is of the utmost interest, and must be mentioned at once although it does not strictly belong to the theme of the tale concerned. I never met with any description of the incident I am going to mention as relative to the West Coast- or Sea-Indians, but several often with the interior or more easterly tribes or races, such as the *Algonkins*, the *Mandans*, and others, and never in any other Greenland tale than that of *Kagsagsuk*. The remarkable feature itself refers to that scene where "small bones of seals" and other "toys", as the tale has it, drop off the body of the "poor boy" every time the beast throws him to the ground while unrolling its long tail after having swung and balanced him high in the air. Each time he was thrown to the ground, and the small bones or "toys" fell from his body, the boy felt easier and more perfect—so says the tale. Yet, what is the meaning? To what do these "playthings," the "toys," refer? Simply, I think, to nothing less than those *buffalo-heads* and *horns* ("bones") with which the *Mandan*-youth was burdened and weighed down during his painful swinging on the scaffold, and while dragged around the encircled stage until every bull's horn (bone), and other things attached to his body dropped off, making him easier, more comfortable, and nearer perfection. What puzzled me greatly in finding out the sense of this scene was particularly the common expression "toys" or "playthings". Yet I knew that there would, nevertheless, be some meaning at the bottom of it—there always is. In the Greenland tongue "little things" are called *pinguit*—the word undoubtedly used in the tradition. Now, on account of playthings of children generally consisting of small articles, they have been called the same, *viz.*, "pinguit", and this has produced the perplexing expression "toys", and the erroneous translation of it. However, I shall not omit mentioning "en passant" that small bones of birds and ribs of seals are pleasant toys for children. This made me once upon a time take the dropping off of the seal-bones from *Kagsagsuk's* body only figuratively, but this it was not. It is, indeed, nothing but the representation of facts recollected. In the *Greenlander's* description of the beast's tail swinging the boy high in the air, I perceive the *Mandan* boy swinging on the scaffold as we know him suspended with arms, shoulders, and legs flayed and scored. (See Collin's illustrations copied in *Bahnsen's Ethnography*.)

(b) The incident of *Kagsagsuk's* foster-mother lending him her boots, and getting him a little spear, corresponds with the service

Scanna's grandmother renders him by lifting him into the stone-canoe, and afterwards putting it to sea.

(c) That *Kagsagsuk* on his return home is able to kick about big stones and boulders better and better each time he had been practising with the *amarok* up in the mountains, distinctly corresponds with *Scanna's* practising in the bay or outlet, first in swimming and then in sailing the stone canoe.

(d) "Let me have thy boots, mother, that I too may go down and see the large piece of timber". This is a very remarkable passage: The piece of drift-wood on the shore which none of the strongest men and youths at the place are able to move from the spot, *Kagsagsuk* can lift in his arms and carry up to put it behind the house—what is this? This is, I suppose, *Scanna's* lifting the stump (the transformed man) off the sands of the Hunnah River-Beach. This again was an exceedingly puzzling incident until I got the end of the leading string in hand. This time my doubts would especially arise from the illustration corresponding with the said scene. On the other hand, the same became at last the means of perfecting my understanding; I shall explain how. The Greenlanders only know a thick trunk of a tree in the shape of the barked, yellowish-white logs of wood that drift to their shores from other lands—probably with the current of the great Asiatic Rivers. Why, then, did they represent the trunk, referred to in the tale, by a naturally colored log? This went far beyond my comprehension; but after becoming acquainted with the story of *Scanna gan Nuncus*, I understood the reason. The trunk in the tale of more tropical climes than Greenland, was recollected.

(e) The tale of the "Bears" is a mere Greenland-addition, and, as we know, has no place in the Indian tale, neither has the element of scorn and resentment of the Greenlandic hero, upon the former of his comrades in consequence of their ill-treatment of him, any place therein. This *crushing* the young maids to death needs no other explanation but the same, for they made one party with the male comrades of *Kagsagsuk* in teasing him.

(f) Nevertheless, I perceive, after having been acquainted with the Indian story, certain second-hand glimpses of the Cowgan- or wood-nymph motive. These glimpses reveal themselves through certain illustrations in my possession, the which I am not, however, able to publish.

Notes on the So-called Second Letter of Toscanelli, Supposed to Have Been Addressed to Christopher Co- lumbus, and Its Bearing on the History of the So- called First Letter.

BY

JOHN B. SHIPLEY.

At the last session of the Congress of Americanists, held at Paris in 1900, Mr. Henry Vignaud, First Secretary of the United States Embassy at Paris, and Vice-President of the Society of Americanists in that city, communicated a paper on the Authenticity of the Letter of Toscanelli of June 25th, 1474, showing that it could no longer be regarded as genuine, but was a forgery executed in all probability at some date posterior to the First Voyage of Columbus in 1492. This communication has since been expanded by its author into a volume, "*La Lettre et la Carte de Toscanelli*" (Paris, Leroux), and an English translation of the volume, with additions, has been published under the title of "*Toscanelli and Columbus*," London, Sands and Co., 1902).

This English edition contains a letter from myself to Mr. Vignaud, published as an appendix, in which I take up the question of the Second Letter, and show that there are arguments to be derived from a study of the documents which go to confirm Mr. Vignaud's main hypothesis. In fact I regard this Second Letter as being a genuine letter of about 1480-81, sent by some learned man in Italy to a correspondent in Portugal, and treating of a project then occupying the attention of the Portuguese Court. This project appears to have had reference, not to a transatlantic voyage, but to one along the West Coast of Africa, for the discovery of the India of Prester John, otherwise Ethiopia, which

appears to have been supposed to extend right across Africa, and therefore to be accessible from the Atlantic by way of the Guinea Coast. I support this view by a consideration of the internal evidence presented by the Second Letter, and show that many of the phrases, amounting to more than half of its contents, have been incorporated with more or less alteration in the earliest text of the First Letter which has come down to us, and can also be recognized in the Spanish and Italian translations.

In the present paper I propose to follow out these identifications, with a view to further illustrating the history of the "First Letter" itself, a question on which I touched but slightly in my letter to Mr. Vignaud, because the First Letter was the main subject of his book, and I wished to confine my remarks chiefly to the recognition of the Second Letter as the original basis of the whole correspondence as transmitted to us. I do not propose to repeat this present paper.

It will be well, for the sake of clearness, to enumerate the documents which are known to us, beginning with the one which, though apparently written the latest, has been known the longest, namely:

First Letter:

I. The Italian translation of the First Letter contained in the *Historie del S. D. Fernando Colombo*, published at Venice in 1571.

II. The Spanish translation of the same Letter, contained in the *Historie General de las Indias*, written by Las Casas between 1552 and 1559, and published in 1875.

III. A Latin version discovered in the fly-leaves of the copy of the *Historie Rerum ubique Gestarum* of Aeneas Sylvius (Pope Pius II), which had belonged to Columbus, and is now preserved in the Columbine Library at Seville; this version was published by Henry Harrisse in 1871, and forms the basis of Mr. Vignaud's researches.

IV. An assumed later Latin version of the same, the existence of which seems to be implied by the differences between the Columbine Text and the two translations.

The Columbine Text in fact differs considerably from the Spanish and Italian versions of the same Letter, in places where these two versions confirm each other, and appear to be renderings of the same original, but not of the Columbine Text. We shall show that in several places the Italian translator has corrected

errors and omissions in the Spanish version, and appears to have endeavored to give an exact rendering of the Latin text before him. (See Appendix A.)

Second Letter:

I. and II. Italian and Spanish versions by the same translators respectively, made under the same conditions and subject to the same remarks as regards greater correctness of the Italian version.

No Latin text of this letter has come down to us. The discovery of such a text would doubtless throw great light on the origin of the correspondence, and this fact would lead us to suspect that it was carefully put out of the way after the final copy was made. In default of this, we must perforce content ourselves with examining how the original may have served in the fabrication of the First Letter, of which the Columbine Text may be considered to be a revised draft (for it shows traces of passages added when working over a previous rough draft), and the Spanish and Italian translations may be taken as representing the final version, the fully completed forgery consisting in the supposed final Latin text No. IV.

There is yet another feature of this suppositious correspondence of which we must speak, and this of itself shows that there has been a progressive change in the nature of the documents as new ideas arose in the mind of the falsifier; such a change is quite sufficient to prove that the documents have been tampered with. This feature is the short note known as the "covering letter," supposed to have been written by Toscanelli to Columbus when sending him the copy of the text forming the essence of the First Letter.

The Second Letter begins with a particular formula of greeting from its ostensible author (Toscanelli) to the ostensible recipient (Columbus). These names may, of course, have been substituted for the real ones.

The Columbine version of the First Letter begins with an identical formula in which the name of the person addressed is given as Fernam Martins. It also bears a heading written in a different handwriting.

The Spanish text of the First Letter omits this formula, which is restored in the Italian version. Both these translations are preceded and introduced by a "covering letter" commencing with

the identical formula of the Second Letter, *i. e.*, a greeting from Toscanelli to Columbus.

The "covering letter" proceeds to give an account of how the main text of the First Letter was originally sent by Toscanelli to Martins, and is now copied by Toscanelli himself for the information of Columbus, along with a copy of the map originally enclosed to Martins. This account forms the bulk of the "covering letter," and is introduced by a few words taken from the Second Letter: "I notice thy splendid and lofty desire." It must, in accordance with Mr. Vignaud's theory, have been made up entirely by the fabricator of the First Letter, and it is to be noted that this "covering letter" is represented in the Columbine Text only by the later heading, which sums it up by describing the text as a copy sent to Christopher Columbus by Paul the Physician, along with a navigating chart. The "covering letter" as it stands may, therefore, be regarded as an addition belonging to the supposed later Latin text (No. IV), and probably known to the writer of the endorsement.

We can now proceed to consider the nature of the problem by defining the relations in which the documents stand to each other as regards the character of their contents.

If the Second Letter was really written after the First, it must either be (1) a continuation of the same correspondence, or (2) a résumé or abstract of the First Letter.

In case (1), we should expect that it would contain little of the matter already given in the First, or that if it did, there would be explicit reasons given for the repetition. The most important part of the letter would naturally be the new matter.

In case (2), there would be no new matter introduced, but the document would be found to be a digest of the most important phrases of the First Letter, with the significance unchanged.

As a matter of fact we find that none of these conditions obtain. Phrases found in the First Letter occur in the Second in quite a different manner and context, neither as an abstract, nor yet as subsidiary to further statements. Though they appear to contain the main object of the letter, they are mingled with other matter, thus negating both suppositions.

If the Second Letter was written before the First, it may be either (3) a rough draft from which the First was prepared by

the same writer, or (4) an original letter by a different writer, and referring either to the same or to a different project.

The argument against recognizing it as an abstract of the First Letter is equally conclusive against regarding it as a working draft from which the First Letter was evolved in pursuance of the same idea, for not only is the arrangement different, but the writer of the longer letter has had a completely different plan of presentation of his subject. We are thus driven to see in these two letters the work of two different minds; the more so as, in comparing the workmanship of the two, we find a great difference in the quality of their composition, and that phrases which are quite in their place in the Second Letter are introduced into the First in very different context, almost without regard for logical sequence, in fact, very much like ready-made material worked up again in hap-hazard order. (See Appendix D.)

We are thus brought irresistibly to the conclusion that this Second Letter is really a distinct and independent production, written by another hand, and not necessarily referring to the same project. The question as to the project really in view is discussed in my letter to Mr. Vignaud, published as an appendix to the English edition of his work. Furthermore, as I there show, it appears to be the original document from which the writer of the First Letter worked, and with reference to which that letter was drawn up.

The purpose which actuated the writer of the First Letter is by this time pretty obvious, and we have the clue to a deep-laid scheme carried out with less skill than the ingenuity of its conception might lead us to expect.

The Second Letter, which served as the suggestion for the concoction of the First Letter, is, in fact, made use of to guarantee and authenticate the forgery. The Second Letter refers to a map as having been sent, and the First Letter as we have it is made to do duty for the letter originally accompanying this map, and both documents are made to refer to a transatlantic voyage in contemplation. Thus the Second Letter could have been produced along with the First, had occasion required, and since it certainly was the work, if not of Toscanelli himself, a hypothesis which we do not here discuss, then of some other distinguished Italian scholar, an authority on geographical subjects, its acceptance as genuine would almost necessarily entail the acceptance

of the First Letter also, and lull all suspicion as to the origin of the latter. Fortunately, however, for science, and unfortunately for the forger, the connection between the two letters proves, on close examination, to be such that the very fact of the preservation of the Second Letter in translation, and of a preliminary form of the First Letter, furnish us with a key for the partial elucidation of the mystery. Had we the original of the Second Letter before us many points now obscure might probably solve themselves without the aid of elaborate criticism.

The Second Letter was written from Rome by a habitué of the Papal Court, where the writer had spoken with ambassadors and merchants from the East. It was written to some one in Portugal who was a prime mover in the proposed voyage, and who was apparently himself a Portuguese, being addressed as a brilliant example of the great and enlightened minds that the Portuguese nation had produced. It is such a letter as might have been written to Fernam Martins, if he really were such a person as is implied in the First Letter, but it is highly improbable that it was addressed to Columbus, for this would imply that the latter had completely concealed his Italian origin. Nor would Toscanelli have sent Columbus a replica of the Second Letter addressed to his previous correspondent, instead of writing him an independent one.

Therefore, while recognizing the Second Letter as a genuine document, we make the same reserves as does Mr. Vignaud with regard to the authorship, and conclude that it was neither written to Columbus, nor with any reference to the scheme for a westward voyage across the Atlantic; but it was taken advantage of to suggest the forgery revealed in Mr. Vignaud's book, and was intended to be produced as an endorsement of the correspondence thus falsified for a deliberate purpose.

The Columbine Text represents a stage in the evolution of this spurious correspondence, but there appears to have been a preliminary draft to which certain additions were made, these interpolations being marked by the words *scilicet* and *ascribit(ur)*. This version commences with the formula of greeting from Toscanelli to Martins at Lisbon, and closes with the date Florence, 25 June, 1474, after which is added a postscript giving a more minute description of the various countries named, with the distances between them, ending up with the words *Pale dilectissime*.

It bears a heading in a later hand, which appears to sum up the contents of the "covering letter" afterwards added in the later edition, and we may here add that this heading is written in a hand which appears to differ from the writing of the main text in the same way that the handwriting of Bartholomew Columbus differs from that of his brother, being more regular, square, and upright, more the hand of a draughtsman and cartographer.

The First Letter in its final form consists of two parts, namely, the "covering letter" and the copy of the First Letter alleged to have been sent in the first place to Fernam Martins.

The "covering letter" has been already described; it consists of the formula of address from the Second Letter (Toscanelli to Columbus), and a history of the correspondence with Martins (who, however, is not mentioned by name), introduced by a phrase taken from the Second Letter.

The only direct mention of the name of Martins is in the formula of greeting found at the head of the Columbine Text and of the corresponding portion of the First Letter as given in the Italian version; this formula is omitted in the Spanish translation, which appears to have been corrected by the Italian translator working from it, but with the later Latin text also before him. The same translator has also restored another portion of the text omitted by the Spaniard, whose account of the "deviation from the pole and equator" is thereby rendered unintelligible. Other slight verbal corrections (enumerated in Appendix A) give us a high idea of the pains taken by the Italian translator to produce as accurate a reproduction as possible of the Latin text, and as the result differs considerably from the Columbine Text, we are forced to conclude that he worked from a later Latin version, which, from age, bad writing, or other accidental causes, had become indistinct or illegible in certain places (Appendix B).

The chief changes in the general form of the correspondence as compared with the Columbine Text are: The prefixing of the "covering letter," and the insertion of the postscript before the final sentence, with omission of the words *Vale dilectissime*; as regards the matter, the altered description of the map accompanying the Letter, and the omission of at least one of the phrases so crudely introduced into the Columbine Text; while as regards the verbal form, there are very numerous alterations, some of

these being obvious improvements, such as the suppression of the clumsy phrase *per subterraneas navigationes*, and its counterpart, while in other cases the logical flow of the sense is changed by differences in the punctuation and paragraphing. As it would be tedious to insert all these changes here, I have enumerated the principal ones in Appendix C.

It is not difficult to form an idea of the reasons which led to these successive alterations of the text, both before and after the stage represented by the Columbine version. Having become possessed of a letter from X. in Italy to Y. in Portugal, apparently referring to a former letter and explanatory map, the fabricator conceives the idea of so framing documents purporting to be those alluded to, that it might appear that Toscanelli knew and approved of a project already formulated by Columbus prior to the date assigned to the correspondence. Having drafted out this letter, it occurs to him that he has yet to make it indicate the character of the map which he intends to put forward as a copy of the one referred to as being in existence in 1474. Therefore he adds a postscript as an afterthought, which, on further consideration, he thinks would be more convincing if incorporated with the main letter, which he does in the later version. As a further afterthought he decides that the map must be identified beyond dispute or cavil with the one he intends to put forward, and he therefore, at the same time that he incorporates the postscript in the letter itself, also changes the wording of the reference to the map in the early part of the letter, in such a manner as to particularize the map in question even more unmistakably than he had hitherto done, and thereby attribute its authorship to Toscanelli. Whether the map thus plainly designated was a previously existing one, or whether it had any objective existence at all, seeing that it was never produced as intended, are points that are fully discussed in Mr. Vignaud's book.

It seems, however, only fair to point out that the Second Letter contains no actual mention of a previous letter sent by the writer, and that the tense used in speaking of the sending of the map differs in the Spanish and Italian translations. We have, therefore, no formal proof as to whether the map accompanied this letter, or had already been sent, with or without a previous letter. It is possible that the writer had constructed a map embodying the project sketched out by his Portuguese correspondent, and

that the phrasing had been manipulated to make it appear that this map, with another letter, had been sent at a prior stage of the correspondence. In this case the original map would be of a very different character from that described in the First Letter, as we have it. I have also pointed out in my letter to Mr. Vignaud, already referred to, that the clause in the Second Letter relating to the map can be cut out altogether without detriment to the construction of the sentence, in fact, rather the reverse.

We have now to consider the method adopted in elaborating the forged First Letter.

If we mark in the First Letter every passage that appears to reproduce the wording or subject-matter of the Second Letter, we shall find that about half of the Second Letter is there represented almost precisely, and about another sixth is embodied in the substance of certain phrases. Thus two-thirds of the Second Letter are found incorporated in the First, and this not bodily, but in detached fragments and in changed order, in one case with a complete inversion of the meaning. The phrases of the Second Letter are often found to mark a change of subject in the First Letter, as though the writer had dipped into the Second Letter again and again, taking what he found there and adding matter of his own or from other sources, and then going back to it again for fresh inspiration. (Appendix D.)

The result is a rambling, digressive letter, wanting in logical arrangement, several times altered and revised in regard to language, apparently the product of a mind accustomed to express itself in rather fluent, but colloquial Italian, here clothed in a garb of faulty Latin. It is far from being the production of a scholarly mind accustomed to logical sequence, and in spite of the many alterations and corrections these faults still remain apparent in the latest revised version of the text as we have it in the Spanish and Italian translations.

To support the charge of digression, we may adduce the fact that the Letter begins to describe the map, then proceeds to enlarge upon the countries that may be reached, and does not resume the description of the map until the Postscript, which a later recension has inserted in the body of the letter. In this Postscript the writer, after mentioning the 26 spaces between Lisbon and Quinsay, goes on to describe the latter city, then adds, several words further on, the remark that these 26 spaces are about

a third of the whole circumference. Later on he again returns to the map and the 10 spaces between Antilia and Cipango, but he finishes his description of the latter island before remarking that these 10 spaces represent no great extent of unknown sea to be traversed.

The Italianisms are a remarkable feature of the Columbine Text. Many of them are such as might be expected to arise from a faulty translation of the impersonal forms of the Romance or neo-Latin tongues into the more direct second person. The subjunctives, often wrongly used, seem to be echoes of the Italian conditional, a form which is very freely used in that language. The use of the reflexive pronoun exactly represents the personal pronoun in Italian, with which it corresponds in form. The prepositions *in* and *per* are used in the Italian or Spanish manner; and the same may be said of the introduction of an indefinite article, which does not exist in Latin. Certain adverbs are also used in an Italian manner, and the phrase *Cita del Cielo*, which occurs in the Columbine Text, is also Italian with one word misspelled. A list of the more striking Italianisms is given in Appendix E to this paper.

As no Latin text of the Second Letter is extant, we cannot apply this method of criticism to it, but taking the letter as we have it in the Spanish and Italian translations, we can only say that it is written in much better style than the First, and with logical sequence, as though the writer had a clear idea of what he meant to say. There are, however, three questions of great importance remaining to be solved with regard to this letter: by whom it was written; to whom it was addressed; and how it got into the hands of the forger.

These questions are quite beyond the scope of the present discussion, which relates to literary and verbal form only; we may, however, suggest that most, if not all, of Mr. Vignaud's reasons for believing that Toscanelli could not have written the First Letter apply equally to the genuine original of the Second. This document, if it relates, as we suggest, to the project which arose about 1480-1481 for seeking the Ethiopian India by way of Guinea ("by the parts of the West"), might have been written in the last two or three years of Toscanelli's life, since he died in 1482. This fact, and the persistent ascription of the correspondence to Toscanelli, although in themselves proving nothing,

are the only reasons we can find for considering the possibility that Toscanelli might have had even so slight a connection with the matter; but the negative character of all other evidence at present brought forward on the subject makes it all but certain that we must look elsewhere for the true solution, if indeed it ever comes to light.

GENEVA, SWITZERLAND, September, 1902.

APPENDIX.

A. THE ITALIAN TRANSLATOR MORE ACCURATE THAN THE SPANISH.

The passages in which the Spanish and Italian versions of the First Letter differ from the Latin (Columbine Text) may be divided into two classes, according as they do or do not differ from each other. Those in which the Spanish and Italian translations agree in presenting a version which is not that of the Columbine Text will be discussed later. We here consider the phrases in which the translators give different renderings of the Latin text used by them (for it is evident that they made use of the same text as a basis for their translations), and shall show that the Italian is evidently the more faithful version, even when the differences are apparently unimportant.

First let us admit that there are apparently two errors in the Italian version: It omits the word "ocular" before "demonstration" (par. 3 of Columbine Text), and gives thirty-five instead of twenty-five leagues (par. 14). But this error may have been made in the Latin text, as this is one of the insertions made subsequent to the stage at which the Columbine Text was written out.

On the other hand, the Italian translator replaces (1) the formula of greeting which contains the name of Martins, omitted by the Spaniard; (2) the word "nevertheless" in par. 3; (3) he restores in par. 4 the words italicized in the following sentence: "The beginning of the Indies with the islands and places whither *you may go, and how much* from the Arctic pole you may deviate." The omission of these words in the Spanish makes nonsense of the whole passage. (4) Speaking of the two hundred cities with bridges of marble (par. 11), the Spaniard introduces the words "of marble" a second time after "columns." The Italian, following the Columbine Text, omits them. (5) He cor-

rectly speaks of Katay as a province; the Spanish says "city." (6) He translates *auro solido* (to which another word appears to have been added) by "plates of fine gold." The Spaniard simply says "pure gold," and this might imply a more superficial method of gilding, while "plates" certainly gives the idea of "solidity."

B. PROBABLE ILLEGIBILITY OF MANUSCRIPTS.

Since the Latin text from which the translators worked has not been preserved, we cannot say whether it was the copy which had been prepared for production whenever the need should arise, or merely a second rough draft embodying the latest corrections and from which the fair copy was ultimately to be made. In the latter case it is easy to see that it may not have been clearly written, or that it may have become torn or otherwise damaged after being laid aside or placed among less important papers when the idea of publicity producing the document was finally abandoned. The omission of certain phrases which seem to have been introduced into the Columbine Text at the moment of writing it—such as *per subterraneas naviogationes* (wrongly introduced), and *pro majori notitia navigantium*,—would lead one to imagine that this later text or draft was based rather on the rough draft preceding the Columbine Text than on that document itself. The point to be illustrated is, however, the fact that certain passages seem to have been misread by the Spaniard, and more carefully examined by the Italian, who has in some cases restored the original meaning of the words, as shown by the Columbine Text; elsewhere he has translated words that he thought he read in the text, and which make some sort of sense, but in one case he has been completely unable to gather a clue to the real meaning, and has simply followed the example of his predecessor the Spaniard, whose work, as well as the Latin, he must therefore have had before him.

The passages we chiefly refer to are the following:

The words *ut p. latinos* (par 12) have not been read by the Spaniard, who substitutes the phrase "as ever"; the Italian looks for a similar phrase as a suggestion, and finds *ut plurimum* some lines above; he accordingly gives the rendering "as any other" (*tanto, quanto ogni altro*).

Another instance where bad latinity and illegibility, or possibly change in the text, have caused confusion, is at the end of par.

14: *in qua residentia terrae regia est.* This is bad Latin; *regis* would be better, and in the absence of a substantive here, *terrae* seems to have been read as *tempore*, "most of the time."

One passage has been given up as hopeless; the Spaniard has supplied a conjectural rendering, and the Italian has simply followed his lead. In the Latin (close to end) it reads *Itaque per ignota itinera non magna maris spatia transeundum*, referring to the ten spaces between Antilia and Cipango. Both translate: "Thus the route being unknown, all these things are hidden, and one may go thither very safely." This rendering, which is pure nonsense, appears to be founded on a reading something like *omnia magis coperta* (for *non magna maris spatia*).

In the Second Letter the differences are comparatively slight. The Spanish has "great" in two places, and "more than we" in another, which are omitted by the Italian, who may have had his reasons for the change. There is also a passage which has been guessed at by the Spaniard and restored by the Italian, who thus reveals its conformity with a phrase which has been introduced by the Columbine falsifier in so curious a fashion that it has been understood by his translators in a sense different from that which the analogy with the Second Letter shows it to bear; the rectification of this phrase shows conclusively that the Italian translator had before his eyes the Latin text of the Second Letter also, otherwise he could never have restored to us the phrase borrowed by the fabricator of the First Letter, for in the Spanish version it is totally unrecognizable. This consists in the words (*quod*) *debebit esse iucundum satis*. The Italian translates this in the Second Letter: *Ciò sarà caro etiandio a quei Rè*, meaning that the kings of those parts will be well pleased to be visited, as they have all along been very desirous of intercourse with Christian nations. The Spaniard misses the point when he says: "It (the journey) will also be to the said kings," perhaps reading *ineundum* for *iocundum* (or *iucundum*). The Columbine version uses the phrase to indicate that the people of those parts will be greatly pleased to find that the voyagers have already some knowledge of their countries; while the Spanish translator has assumed that it means that the travelers themselves will be very glad to have this knowledge beforehand, and the Italian incorporates this phrase of the First Letter with the following sentence, and says: "To give you information of all these places which

you greatly desire to know." Thus in the five documents we have five different renderings of the original text which underlies them all, and was probably introduced in the original letter by *hoc* instead of *quod*.

C. EVIDENCE OF THE EXISTENCE OF A LATER LATIN TEXT.

We have alluded to the care taken by the Italian translator to reproduce exactly the character of the Latin text from which he worked, a care which extends even to the replacement of the not absolutely indispensable word *tamen*. We have seen that it is only where the Latin has been thoroughly incomprehensible that he has followed the lead of the Spaniard, while in at least two instances he has read, or thought he read, passages which the Spaniard has replaced by words of his own. When, therefore, we find that in some thirty passages he is in complete verbal accord with the Spanish translator, both differing from the Columbine Text, sometimes only slightly, sometimes giving a totally different reading, we can only assume that, apart from illegible passages, the two translators worked from a Latin text which differed in these respects from the Columbine version. In the following list the figures in parentheses refer to the paragraphs of the Columbine Text, as printed by Mr. Vignaud.

(2) De tua valetudine, de gratia
et familiaritate.

The first of these substantives is omitted, the second is rendered by *privanza* in Spanish, omitted in Italian.

Principe.

Omitted in both.

(3) De breviori via.

Breviori is changed into the superlative in both, but the comparative form is reintroduced later in the sentence.

Loca aromatum.

Both say "the Indies where the spices grow." See (7).

Quaerit nunc.

Both prefix "you tell me."

Etiam mediocriter docti.

Omitted by both.

Caperent, intelligerent.

Order changed, and *caperent* taken in the sense of *sequi possent*.

(4) Fiunt illud declarare.

Both substitute "similar to those which are made." Probably a change of text, or *fiunt* perhaps read as *simil*.

- (5) Manibus meis factam. Both add "and drawn."
- Litora vestra etc. A remarkable and extensive change in the description of the map is discussed later.
- Debeatis (three times). Changed to "can" in the indicative.
- Gemmarum. Both add "and precious stones."
- Per subterraneas navigationes . . . per superiora itinera. For these cumbrous expressions are substituted the simple words "West" and "East." The first expression is misplaced in the Columbine version.
- (6) Meridie, septentrionem. Order reversed.
- (7) Notavi autem in carta diversa loca. Both add "the said" before "map," and, at the end of the phrase, add "in the parts of India," being the second time that the word India has been specifically added. See (3).
- Pro majori notitia navigantium scilicet. These words appear to have been completely changed; they are replaced by "should there befall some mischance of fortune."
- Ventis. Both say "contrary winds."
- Alibi (corrected to *alio*). This correction, noted by Mr. Vignaud as necessary, has apparently been made in the revised text, but gives rise to an error in translation, both taking it with the preceding words: "Any other mischance," and this again entails the reference of *existimarent venirent* to *chance* instead of to *place*.
- Ostendant incolis. Omitted in both. The information is now for the use of the travelers, not for its effect on the inhabitants.
- Aserit (ur). Change to the imperative "learn that," and placed where it belongs, at the beginning of the clause.
- (8) Ut in toto reliquo orbe non sint. Last two words omitted, thus making the comparison one of equality, not of superiority.
- Deferri. Changed to "load and unload."

(11) Tempore Eugenii.

Omitted in both, thus avoiding the double mention of the Pope's name.

Mirabili.

Both separate this word from its context in the Latin, and the Italian fills out the sense by repeating the reference to the conversation.

(12) Ex ea capi possunt.

Both add "and many (rich) things can be had there, but also . ."

(13) Satisfacere.

Both add "and serve."

(14) Signata.

Omitted in both.

Centum miliaria.

Both add "which are 25 leagues," but the Italian substitutes 35, either by error or following an error in the Latin.

Pontes decem.

Both add "of marble." Probably an addition in the later text to correspond with the statement in par. 11.

Multitudine.

Translated by both as *magnitudine*.

(15) Antilia.

Both add "which you call the island of the Seven Cities."

Sed diligens considerator.

The last lines of the Postscript are completely changed.

But by far the most valid proof that the text used by the two translators differed from the Columbine version is the extraordinary change in the description of the contents of the map:

(5) Litora vestra et insulae ex quibus incipitis iter facere versus occasum semper . . .

All the extremity of the West, taking from Ireland to the South, as far as the end of Guinea, with all the islands which lie along the whole route, facing which directly westward is depicted the beginning of the Indies with the islands. . .

This paragraph is further obscured by the omission (noted above) on the part of the Spaniard, of the phrase containing the words *quantum a polo*, so important as explaining the sense of *declinare*. It does not mean "the places where you are to deviate for the Equator," but "how much you are to deviate from the pole, or from the Equator," which is equivalent to saying "along what latitude you are to sail." The Latin text seems to have used the

wrong preposition before *linea æquinoctiali*, and consequently both translators give "for the equinoctial line," which causes unnecessary confusion. The Latin contemplates keeping a constant distance from the Pole, and therefore also from the Equator. It was not intended to sail so as to reach the Equator, as the translations might lead us to infer. The Columbine Text is quite clear on this point.

D. THE FIRST LETTER TAKEN FROM THE SECOND.

Four passages appear in the same words in the Spanish translations of the two letters, *viz*:

(a) *A Cristobal Columbo, Paulo, fisico, salud.*

(b) *Yo teo el tu desco magnifico y grande.*

(These two passages are placed at the commencement of the "covering letter.")

(c) *De todas maneras de especieria en gran suma.*

(Repeated in the First Letter in another place as:

De toda manera de especieria.)

(d) *Otras muchas (cosas que) se podrian decir.*

The coincidence is only slightly less striking in the Italian through chance variation of phraseology.

In the following comparative table, the Second Letter, in English translation mainly from the Italian version, is compared with the parallel passages from the First Letter, taken from both versions, and with one passage direct from the Columbine Version.

To Christopher Columbus, Paul,
the physician, health.

I have received thy letters with the things which thou didst send me, which I hold as a great favor ; and I notice thy splendid and lofty desire, in wishing to sail from the east to the west, as is shown by the chart which I sent thee, which would be better shown in the form of a round sphere. It greatly pleases me that it has been well understood, and that not only is the said voyage possible, but it is sure and certain, and of honor and countless gain, and of the very highest fame among all Christians.

To Christopher Columbus, Paul,
the physician, health.

(Covering Letter.)

In reply to a letter of thine.

(Cov. Let.)

I notice the splendid and lofty desire thou hast. (Cov. Let.)

I send thee another such chart.
(Cov. Let.)

I know that I can show it him in the form of a globe. (4)

I know that there is naught left for you to understand. (15)

Not only may great gains and many things be had there. (12)

You cannot understand it perfectly, unless by experience and by practice, as I have had most fully and with good and true information from illustrious men and of great knowledge, who came from the said regions to to this Court of Rome ; and from other merchants, who have long traded in those parts, persons of great authority.

So that when the said journey is made, it will be to powerful kingdoms, and to most noble cities and provinces, most rich in all manner of things in great abundance, and very necessary to us, as also in all kinds of spices in great quantity, and of jewels in the largest abundance.

That will also be agreeable to those kings and princes, who are most anxious to communicate and treat with the Christians of these our countries, both because some of them are Christians, and also to have speech and intercourse with the learned men and of genius from here, as well in religion as in all the other sciences, because of the great reputation of the empires and administrations of these our parts ; for all which things, and for many others which might be mentioned, I do not wonder that thou, who art of great courage, and all the Portuguese nation, which has always possessed men renowned in all enterprises, shouldst be burning and full of desire to prosecute the said voyage.

On glancing down the numbers denoting the paragraphs in the Columbine version it will at once be seen that no particular order has been observed in working these scraps of the Second Letter into the First.

Special attention may be called to the long sentence about the wise and learned men, for in it the sense is completely inverted.

And likewise to Pope Eugenius came an ambassador . . . and I have talked much with him of many things. (11)

Know also that in all those islands there live and traffic none but merchants. (7)

This land is very populous, and in it are many provinces and many kingdoms, and cities without number. (9)

Places most rich in all kinds. (5)

Many rich things . . . precious stones and all kinds of spices in great quantities, of which never is any brought into this our country. (12)

This will surely be no little pleasure. (7, Columbine)

His predecessors wished greatly to hold intercourse and converse with Christians. (10)

The great friendship that these princes and their people have with Christians. (11)

And true it is that many learned men, philosophers and astrologers, and other great scholars in all the arts and of great talent, govern this great province and wage war. (12)

Many other things might be said. (15)

You are foreseeing and of good judgment. (15)

In the Second Letter it is asserted that the kings of the East had heard of the learned men of "these our countries"; but in the First Letter the wise men are those of the Eastern lands, as described by Marco Polo, and they are mentioned as a reason why those countries are worthy of being explored, whereas in the original it is the Eastern people who desire to come into contact with the doctors of the West.

E. ITALIANISMS IN THE COLUMBINE TEXT.

These may be classified under the following heading:

(a) Incorrect use of the Latin subjunctive, representing the Italian conditional. In Mr. Vignaud's notes on the Columbine Text ("Toscanelli and Columbus," Appendix B, Notes 2, 3, 4, etc.), several instances are given in which the subjunctives are wrongly used, and "do not express the thought of the author." In these cases the sense implied is precisely that of the Italian conditional. If we translate such phrases as *quam sit ea quam facitis*,—*caperent et intelligerent*,—*incipiatis*,—*debeat pervenire*,—*debeat declinare*, into the Italian conditional, the hypothetical nature of the argument will be clearly expressed. The same remark applies to *potestis* (par. 7), which in the later text appears to have been corrected to the subjunctive *possetis*, and, in fact, is translated by the conditional in both the Spanish and the Italian, the correspondence of the subjunctive in Latin, as employed in this letter, with the conditional, being thus clearly recognized. In other cases a more direct phrase has sometimes been adopted, for instance, *debeat* has uniformly been changed in the later text into *potestis*, and is translated as such (*potete*, *podeis*). This avoidance of the conditional in the translation is rather marked, and is probably due to the same cause which led to the use of the conditional-subjunctive in the Columbine, namely, that it is a colloquial rather than a literary form. The evidences that the fabricator of the letter was "thinking in Italian" have therefore been partially suppressed.

The incorrect subjunctive *reperirentur* (par. 5), where the future is required, appears to have been intended for a future, the writer having in mind the Italian form *reperiranno*.

Another sense in which the Italian conditional is used is that implied by *aseritur*, which in the final copy is replaced by a more direct phrase. The same meaning appears to underlie *gubernentur*, *conducant* (par. 12), meaning "are said to be governed."

(b) Confusion through faulty rendering of the Italian impersonal construction. The introduction of the phrase *pro majori notitia navigantium scilicet*, which appears to have been thrown in after the first rough draft of the letter was made, has no doubt arisen from an incongruity in the rendering of two impersonal Italian forms which were in the writer's mind. Before this phrase we have the second person plural, *pervenire potestis* (for *possitis*), which is retained in the Italian translation as the impersonal conditional, *si portrebbe andare*. But later in the sentence the writer had placed two verbs in the third plural (*cristimarent venirent*). In order to have a suitable subject for these verbs he throws in, with clumsy ingenuity, the plural noun *navigantium*, which is understood as supplying a nominative for the verbs, and for *ostendant* in the next clause: "divers places where you might arrive, and this for the better information of the navigators if they should come, etc." The original form of the sentence in the writer's mind would be: "divers places where one might arrive if one should come." But have replaced the second of these impersonal phrases by the third person plural, a subject has to be supplied, and for this purpose "the navigators" are introduced.

(c) The use of the pronouns *sui*, *secum*, *suam*, which are reflexive in Latin, exactly represents the forms of the personal pronouns *suoi*, *sco*, *sua* in Italian. In the last instance (par. 13), the change to *tuam* has been made on the Columbine document itself; *suam*, as originally written, recalls the Italian form of polite address: "la Sua richiesta."

(d) The use of the prepositions *in*, *per*, and of the article *una*, has been noted by Mr. Vignaud, and is taken from the modern languages.

(e) The adverb *alibi* (par. 7), written for *alio*, recalls the Italian *altrove*, which could be used in this sense, replacing either word in Latin. Another adverb, *ita*, also incorrectly used, suggests *così* in Italian (par. 12). Here again the choice of words is rather that of the colloquial Northern Italian than of the strictly correct literary language.

(f) *Aliquantula* (par. 13), though not in itself a regular Italian form suggests the frequently used Italian diminutive.

(g) The words *cita del ciclo*, given in the Columbine Text, along with a Latin rendering, as the meaning of the name Quin-

say, are Italian, misspelled, the correct form being *Città del Cielo*. They thus furnish convincing proof that the Italian language was constantly in the mind of the framer of the letter, even if they are actually taken from Marco Polo.

We are thus brought to the conclusion that the writer of the Columbine Text was a half-educated Italian, though we do not profess to decide here which of the Brothers Columbus is best entitled to the dubious honor of having concocted this gigantic mystification of several centuries' standing.

Social Organization of the Haida.

BY

JOHN R. SWANTON.

According to an estimate made about the year 1840 the whole number of people speaking Haida (or Skittagetan) was upwards of eight thousand. This estimate undoubtedly included the slaves. About six thousand Haida were then upon the Queen Charlotte Islands and the remainder upon the southern extremity of Prince of Wales Island, Alaska. These latter now number about three hundred, distributed in three towns; the former six hundred in two towns. All together the Haida thus count in the neighborhood of nine hundred souls, little more than one-tenth of their former strength. For such an astonishing decrease small-pox and immorality are mainly responsible.

At Masset, on the northern coast of the Queen Charlotte Islands, the dialect spoken is almost identical with that of the Alaskan Haida, but the language of Skidegate presents many striking differences and appears to represent the oldest form of speech.

Like the other coast tribes of British Columbia and Alaska the Haida lived in houses built of cedar planks and huge cedar beams. They varied in size from mere "shacks" to huge buildings accommodating a hundred people or more. The Tlingit and Tsimshian houses were constructed in practically the same way, but those further south varied considerably. These three peoples—Haida, Tlingit and Tsimshian—were, indeed, very closely related to each other, especially the two former.

The Haida and Tlingit were both divided into two sides or clans. Among the Tlingit they were called Raven and Wolf, or Raven and Eagle. Among the Haida they were the Raven and the Eagle, or, as it was also called, the Git'i'ns, a word of uncertain meaning. These have sometimes been denominated phratries, but that term would be inapplicable in the sense in which it is generally used, because there are no clans to group

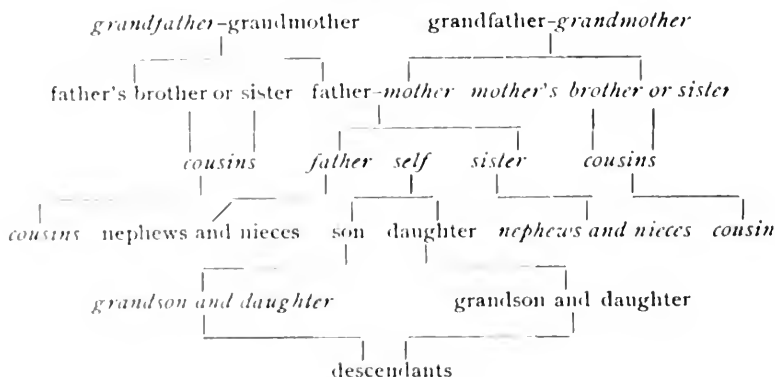
under them. Each clan was strictly exogamic, a regulation which applied to none of the minor divisions, and children always belonged to the mother's side. According to some writers, the people throughout this region sometimes transferred a child to its father's clan by giving it to his sister to bring up, and such a custom may have been known to the Haida, but I did not hear of it. Chief's sons were, however, sometimes adopted by other chiefs of the same side as their own fathers.

The distinction between these two sides was most rigid. Theoretically they could not have the same personal, house, or canoe names, or wear the same crests, and only in a very few cases was this rule infringed. A man was initiated into the secret-society by his opposites, and, when he died, they conducted the funeral. In the grave-houses Ravens lay with Ravens, Eagles with Eagles only. Thus husband and wife were never buried together. So deep was the fission between husband and wife that the latter sometimes betrayed her husband into the hands of her own people when they were at war with his family. A man spoke of the members of his own clan as "friends," "uncles," or "brothers"; of those of the opposite clan as "opposites," "cousins," "uncles' children," or "brothers—" and "sisters-in-law."

The terms of relationship were, indeed, directly dependent on this division in the state, and here is the best place in which to speak of them. With us they are governed by three considerations, sex, relative age and nearness in blood.

Thus our own system is as follows:

ANCESTORS.



But terms of relationship, by their very name, are used to mark the relation in which those that bear them stand to self. And since to a Haida it is of the very greatest importance into which *clan* any man or woman falls, it is perfectly natural that the terms of relationship should be made to indicate that position. If, however, you should superpose this system upon the above a longer set of names would be required, and a very cumbersome system would result. Taking only the three generations of my parents, myself and my children, it would be necessary to add new names for my father's brother and my father's sister, for the children of my uncles on my mother's and my aunts on my father's side, and for the male and female children of my brothers. That is to say, there would be in those three generations at least fourteen different names instead of nine, to which would have to be added terms of relationship brought about by marriage and terms for more remote generations. It is hardly to be expected that tribes in the stage of culture of the Haida should develop such a lengthy system if an easier were possible.

In the above suppositious case I have maintained the sacredness of the Aryan family, retaining separate names for father, mother, sister, brother, son, daughter, nephew, niece. But suppose the importance of one's immediate family were altogether secondary to the importance of that great clan division above indicated. We say that our closest blood relations should receive those terms, because their relations to us are the most important. With the Haida, however, that is not the case. According to the clan system my own father, my own mother, my father's own brother and sister, my mother's own brother and sister, my brother, my sister, my mother's brother's child, my father's sister's child, my own son, my own daughter, my own nephew and my own niece each belongs to a class, the relation of which towards me are governed by strict clan laws and are of the greatest importance in my own life. When that is considered it does not seem at all strange that in place of inventing entirely new ones each of these terms has been so extended as to cover all who bear the same clan relationship to me. Thus my fathers are all the men of the opposite clan of my father's generation, my mothers are all the women of my mother's clan and generation, my aunts all the women of my father's clan and generation, my uncles all the men of my mother's clan and generation. My brothers are all

the men of my own clan and generation. They are further distinguished into elder and younger brothers. My sisters are all the women of my own clan and generation. My cousins male are all the men of the opposite clan and my generation. My cousins female are all the women of the opposite clan and my generation. All the men and women of the opposite clan and the generation succeeding mine are sons and daughters and all the men and women of my own clan and the following, nephews and nieces. Similarly in relationship through marriage there is one name for the men of the same clan and generation as my wife—or, more generally, for those of the same clan irrespective of age—and another for the women. I have not found, however, that the terms for father-in-law or mother-in-law is applied to any one except the father and mother of one's own wife and husband, or the term son-in-law to any but the husband of one's own daughter. The terms for father-in-law and son-in-law are identical. The terms of relationship used by a woman are almost identical with those for a man, involving a few obviously necessary changes and an independent term for father, the reason for the use of which I have not yet investigated.

At the same time it must not be assumed that the immediate relationships according to our own notions are not recognized or that there is the least doubt regarding them, any more than it can be assumed that we do not distinguish between the children of our uncles and aunts and more remote relations because we call them all cousins. In a Haida town every one is pretty well informed as to the exact relationship of everybody else in it, and it requires a very slight hint to let him know whether one is speaking of his own father or brother, or some one more remotely related. In the myths this difficulty is often met by telling about the hero's birth. Sometimes it is specified of brothers that "their father was one; their mother was one," or again it may not be thought of enough importance to specify the blood-relationship at all. As long as the relative clan standing is understood that is sufficient. Similarly in speaking to strangers who may not be supposed to be especially interested in their immediate family affairs, white people do not always take the trouble to specify whether they are talking about an own cousin, or about a second or third. I dwell upon this because I think too much importance has been laid upon the terms of relationship as used by such

tribes as the Haida by some writers as proof of certain primitive conditions of the family, such as group-marriages. If such really existed, I do not think that Haida terms of relationship can be appealed to for any positive evidence. Indeed, the term uncle or aunt is often applied to one who lived centuries ago. It merely serves to mark that such and such a person did belong to such and such a clan. Not only so, but supernatural beings are called "father," if they are supposed to belong to the same clan as my own father; for it is a matter of peculiar interest that the supernatural beings are all supposed to be divided in the same way as are human beings. (Danger of identifying Haida kin as relationship with those to which they most nearly correspond among white people.)

In spite of the important part played by what I have called clans, there was no such thing as a clan government or clan ownership. Each of the houses in a town was owned by one man, the *I'lixagidas* or House-chief. His wife had a high position in it from that fact and, usually also, as being a chief's daughter, but she had no right to the house itself. In one remarkable case a man was so fond of his wife as to let her own the house, but such occurrences were altogether exceptional. The wife, however, could hold property independently of her husband. Since she belonged to the opposite clan, it was through her that the chief treated with his opposites, and she sometimes presided when he called the people of her side in to a feast.

Since, however, descent was in the female line, the wife was very much like a stranger in a strange land. There were generally houses owned by both Ravens and Eagles in the same town, in which case her own people might live near her, but frequently she belonged to a different place, and, when hostilities occurred between the two, her position must have been somewhat awkward to say the least. Her children, too, had no claim upon the people among whom they lived, and the latter regarded them as strangers. Such being the case, and since one received no assistance in time of trouble, from members of any family besides his own, it was only natural that, in most cases, they preferred to return to their mother's town. This tendency was accentuated by the custom of taking a boy away to live with his uncle when he was quite young. It was thought he would be spoiled if he remained near his mother. This was more apt to happen if the

boy was next in succession to a position in one of the houses of his mother's town. From his uncle he received all the instruction necessary to prepare him to take that place, and he acted as his uncle's right-hand man, or spokesman on all occasions. He was expected to marry his uncle's widow when he succeeded. Often he married the daughter of the chief he was to succeed.

Girls were often married in the same town where they were brought up without ever going back to their own people. When a house-chief died, the brother or nephew who succeeded was, as already stated, expected to marry the widow. When she died, however, there was no bond connecting her unmarried children with that town and they usually returned to her place to live with their uncles.

Younger sons might continue to live with their elder brothers until the death of the former gave them the chieftainship, or they might accumulate property, potlatch and put up a house of their own. In this case they generally erected it in their mother's town. Sometimes, however, a man chose to put up a house in the town where he was brought up or the one into which he married. This would happen oftenest where two towns were near each other, or where two towns were in the habit of intermarrying so that there was always a large population from each in both places. So that it came about that in most towns there were houses belonging to both clans. Nevertheless, according to the stories, a town normally consisted of houses belonging to one family only.

Usually each household had its own camping-ground on a salmon creek, where its smoke-house stood, and whither the people went in the spring to dry salmon and halibut, trap bear, gather berries, dig roots and make canoes, returning to town in the fall.

Higher in order were the "families" (Gwai' giagañ). A family embraced everywhere from one to a dozen houses. Nearly all of these families bear the name of some ancient town, some camping-place or some part of a town, so it is readily seen that they are nothing more than local groups. My investigations have shown the process of family formation in all stages. Certain families embraced subdivisions with no special name, although the members of each dressed somewhat differently at the potlatches; others included sections named from the part of the town they occupied or from some camping-place. Between still others there was

simply a historical relationship, and only vague traditions indicate the connection between certain of the grander divisions. According to their own testimony all of the Ravens had one origin and all the Eagles one origin, but this is probably not quite true. The distinction between Ravens and Eagles was considered absolute and eternal.

The fact is each Haida household was so complete in itself that all it required was a name and a certain amount of isolation to develop into an entirely independent family, and there was a constant tendency in that direction.

The largest body of people under one government among the Haida were those in the same town. Although one family might own two or more towns, there were more often several families in one town; and, although all had their own family chiefs, one of these was chief of the town, the Lă'na a'oga (Town-mother) or Lă'na l'e'igas (Town-master).

I have elsewhere hinted that elder nephews succeeded to a position before younger. That was, however, rather a natural than a legal condition of affairs. In choosing a successor to any position the first requisite appears to have been success in amassing property. So it happened that elder sons were sometimes passed over by younger ones, or nearer relatives for those more remote. In one case two succeeded to the same position. The position of town or family chief did not go with the same house, unless that happened to be the only great house in the family, for it must be stated that there were many low-class families or low divisions of families called "food-steamers," which usually had no chief at all and generally lived in mean houses or acted as servants in the houses of the higher classes.

A chief's power varied considerably, resting mainly, as has been said, on the amount of his property. With the possible exception of members of the low families, above-referred to, any one might become chief of his family, and, if his family owned a town, chief of the town as well. Property was partly inherited; partly amassed in trade or war. War was, indeed, undertaken mainly to obtain slaves. That object and revenge went hand in hand. A chief's power also rested very largely with himself. Some might be called absolute monarchs and even tyrants, while others lost all influence and, if not deposed, were practically unrecognized and unhonored by their inferiors.

There were certain tendencies to combination between towns owned by the same clan or those that had much to do with each other in war-expeditions, but they did not result in the subordination of the canoes of one town to those of another.

An excellent side-light is cast upon Haida social organization by the order maintained by war parties. Each house generally outfitted one canoe, in which the house-chief or his representative occupied the stern and was called war-chief. The conduct of the canoe when in action was, however, entrusted to another man, the *Sik la'dia*, whose place was at the bow. He was always an experienced warrior and, in authority though not in name, was the real war-chief. While the warriors were away his wife led the dances which their wives kept up until their return. When a whole family went to war, the family-chief, himself was war-chief. If two or three families went, the heads of all were the war-chiefs.

TO SUMMARIZE.

The essential points in Haida social organization were, firstly, the division into two great exagamous clans, a division which reflected itself, as we have seen, in the terms of relationship; and, second, the organization of each house under one house-chief. The organization of families and towns was simply a larger application of that of each household.

On the Occurrence of an Arrow-Head with Bones of an Extinct Bison.

BY

S. W. WILLISTON.

In the summer of 1895 Mr. T. Overton and Mr. H. T. Martin, assistants in the paleontological department of the University of Kansas, under my direction, while engaged in the collection of vertebrate fossils in Western Kansas, had their attention directed to a number of mammal bones protruding from a bank of a small tributary of the Smoky Hill river in Logan county. From their description I, at the time, recognized an extinct form and urged them to collect all the bones with care.

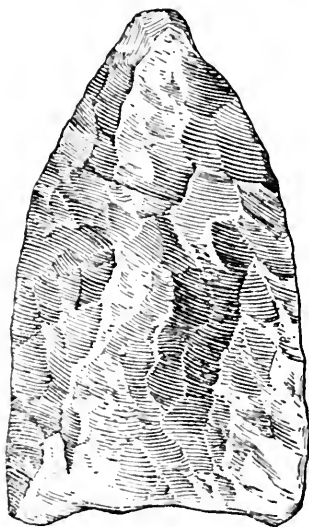
Both men had had much experience in the collection and preparation of fossil vertebrates, and Mr. Martin especially has a wide reputation for his skill and trustworthiness in such matters. The bones were at first identified by me as pertaining to the extinct species *Bison antiquus* Leidy, and were so described by Mr. A. Stewart, a student of my laboratory. Later, however, Mr. Lucas of the National Museum, after an exhaustive study of the known species of fossil bisons of America, recognized the species as new, and gave to it the name *Bison occidentalis*, known otherwise only from a fragmentary skull collected in Alaska and now preserved in the National Museum.

The arrow-head (see accompanying figure) was first discovered by Mr. Martin in removing the bones of one of the skeletons, but it was almost immediately seen by Mr. Overton while lying in its original position, as also by a gentleman who was watching the exhumation of the bones.

While the evidence thus rests almost exclusively upon the testimony of Messrs. Martin and Overton, I have not the slightest doubt of its reliability. I know, from an intimate acquaintance, that Mr. Martin is reliable, and I am confident that the testimony of the two would be accepted as conclusive in any court of justice.

Mr. Martin's description, given at my request, is as follows:

"The exact locality of the bone bed where the arrow-head was found, associated with the bison bones, is about one-half mile north of the Smoky Hill river on Twelve Mile creek in Logan



county, Kansas, twelve miles east of Russel Springs and eighteen miles south of Monument Station on the Union Pacific railroad, in Township 14, range 33 west."

"The arrow-head was found underneath the right scapula of the largest skeleton, embedded in the matrix, but touching the bone itself. The skeleton was lying upon the right side."

"The stratum containing the bones was about two feet in thickness, comprised of fine silty material, blue-gray in color. Overlying this were twenty feet of the so-called plains marl. Below the bone layer there was a four-inch layer of a sandy conglomerate material, which rested directly upon the Niobrara chalk, here forming a bluff to the north of the bone deposit. The bone bed, when cleared off, was about ten feet square, and contained the skeletons of five or six adult animals, and two or three younger ones, together with a foetal skeleton within the pelvis of one of the adult skeletons. The animals had evidently all perished together in winter. There was no possibility of the accidental intrusion of the arrow-head into the place where found—as the superincumbent material had all been removed ten feet back before exposing the skeleton. It must have been within the body of

the animal at the time it died, or have been lying on the surface beneath its body."

The material covering the skeleton is the characteristic plains marl, in which and not far distant from the site of the arrow-head I have obtained bones of *Elephas primigenius* and *Platygonus compressus*, both characteristic pleistocene mammals of the so-called Equus Beds, or Sheridan Stage.

A previous notice of this discovery was published by me in Volume II, Kansas University Geological Survey, 1896, in a discussion of the Pleistocene fauna of Kansas. Since the meeting of Congress this paper has been published, with a figure of the arrow-head.

Symbolism in the Decorative Art of the Sioux.

BY

CLARK WISSLER.

The Plains Indians of the United States have a well developed decorative art in which simple geometric designs are the elements of composition. This art is primarily the work of women. Clothing and other useful articles, made of skins, are made attractive by designs in beads and quills. In the work of the Sioux we have a type of this art.

There are two well defined motives in the art of the Indian. In one case we have a serious religious motive; in the other, a purely aesthetic motive. In the former the sole object is to express a prayer to the power, graphically represented, for direct aid or intervention in the adversities of life. As, for example, a Dakota places an emblem of the Thunder Bird upon a shield as a perpetual prayer to this great power for protection from all the dangers of the war-path. In like manner he looks upon the American eagle as a white man's prayer to the same power. The Arapaho women often place upon the moccasins of children representations of the path of life with insects, serpents and other dangers outside of the path, the whole worked into a composition expressing a prayer that all harm may be removed from the life of the child. In the pure type of such symbolical art the only consideration is the representation of the idea regardless of aesthetic or decorative effects. In case of the aesthetic motive the aim is to add beauty to the object decorated, or to give a value in ornamentation aside from the practical. As for example, a woman makes a pair of moccasins for a friend and desiring them to be acceptable to the eye she takes design motives and works them into a harmonious composition. These two types of motive are found in the art of the Sioux and the other Indians of the plains.

Convention is a potent factor in determining the style of decoration. Designs of one character are recognized as appropriate parfleche decorations and every woman feels the conventional necessity of conforming to the type in vogue. Thus the conventional types of decoration are slow to change. It seems safe to say that every social observance has passed through the same cycle and that a practice, once based upon real religious motives, passes gradually into a conventionalism, empty and formal in the extreme. Thus it seems reasonable to suppose that many conventional decorations now looked upon by the Indian as merely aesthetic were once expressions of the opposite motive. Knowledge of the former significance of designs and motives of production having passed out of all recollection, the conventional mode of decoration still survives, but in its aesthetic aspect. If such is a true statement of the origin of many conventional decorations, we should find examples of the transition, cases in which the significance of certain decorations had not passed out of mind entirely, but survived as an item in the existing knowledge of the past. We do find, as will be illustrated later, many examples of art motive in which the religious motive and the aesthetic are complementary; that is, that in many cases the motive has been aesthetic, but also mindful of the more serious aspect of life.

The passing of symbolic designs over into decorative designs, considering the objective aspects of art, would naturally carry over traces of their former significance in the names applied to them and so render the problem still more complex. Thus the difference between real and apparent symbolism would be obscure.

Bearing these statements in mind we pass to an examination of specimens. In Plate I we have a series of decorated moccasins collected from the Dakota. These specimens were all ornamental in compliance to the decorative motive. The women were positive that, while they did make designs with other motives, in this case they had nothing in mind except the beauty of the moccasin.

In one particular these moccasins are all similar: ornamental borders follow the uppers parallel to the edge of the sole. In every case these borders consist of small geometric designs arranged symmetrically upon a ground of uniform color. The most frequent border design is triangular with the apex pointing up-



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PLATE I.

ward. This design is usually spoken of as the tipi pattern, or tent design. In some cases a rectangular area rests upon the base of the triangle; this is said to be an elaboration of the realistic character of the design in that it represents the door or entrance to the tent. Another variation of this triangular design is the block-like pattern illustrated in specimen No. 2. This figure is associated with the pointed border of the tent design in specimen No. 6. This is designated as the "cut-out," or step pattern. But, curiously enough, this variation does not prevent the whole figure being spoken of as a tent design. Moccasins Nos. 1 and 6 present rectangular border patterns called "the bundle," "the bag," "the box," etc. This pattern I shall name the box design. On moccasin No. 4 appears a double cross design, always recognized as the dragon-fly design.

While the moccasins shown here all bear borders, the decorations of the insteps differ. In case of specimen No. 1 the transverse bands are classed as the road, trail, or path pattern—trail design. The design on No. 2 is given the name of the "three row pattern." The longitudinal band on the instep of Nos. 3, 4 and 6 are called the middle-row pattern: the pointed area between this middle-row and the border is not given a specific name, but spoken of as a space or the part between. The three-row and the middle-row patterns are names for the general style, or the larger design unit. Moccasin No. 6 bears the same designs on the middle-row as upon the border. Nos. 3 and 4 bear a series of small triangles down the middle-row. These pointed designs are designated as vertebrae. Moccasin No. 2 is ornamented by an arrow design, the box design and a third design, for which no name was given. The lateral stripes on No. 6, forming the ground for a series of rectangles, are the "filled-up" patterns.

Moccasin No. 4, Plate II, bears upon its border a design that is a recognized composition. The diamond-shaped center is named after an arrow-point of the same shape and the pointed appendages are known as the forked-leaf designs. The simple cross design appears upon the ankle: this is known as the "crossing of the trail" pattern. The other designs upon this specimen have been discussed above.

Here we find specific illustrations of a definite terminology for the simple geometrical design elements used in the decorative art of the Dakota. When a woman says that she places the design

of the dragon-fly upon a moccasin it is not safe to assume more than that she made use of the so-called design as an element of decoration. Indeed, she may not have thought of the dragon-fly at all. Dakota women told the writer time after time that the tent design was nothing but a name and that they did not think of making tents when they used this design in decoration. In short, these Indian women have developed a school of decorative art in which they use geometric elements with technical names in their more objective aspect as the material for composing complex designs. It will be observed that the names given these designs are mainly derived from the obvious geometric relations between them and the objects after which they are named. At first thought it might be assumed that they originated from these objects, but such origin is not essential, as there is reason to believe that the Dakota, in common with other tribes of the Plains borrowed designs from other tribes and gave them names according to their linguistic modes.

It is natural to suppose that when a Dakota woman undertakes a piece of decorative work in these designs in which she attempts to represent a scene in nature, she will use a tent design for a tent, a box design for a box, or bag, etc., but the facts are otherwise. In the first place it should be noted that Dakota women do work out design compositions to represent scenes in nature, but that in doing so they make use of their general stock of design elements.

For moccasin No. 5, Plate II, we have again the tent and box designs, but used in a composition representing objects directly associated in nature. The triangular design upon the instep represents a mountain and the bar on its apex a road or trail over the mountain. On the border of the moccasin the triangular designs are also mountains, the square designs within them projecting rocks, while the group of small squares between the triangular designs represent tracks of people in the dust of the trail.

The simple design elements in the decoration upon No. 6, Plate II, present a composition. The larger areas are in green, to represent the grass-covered ground. The border line and the band on the instep represent roads or trails. The triangular designs within the trails represent patches of colored earth by the road. The rectangular designs represent tents, or a camp.

In the latter, for example, we have the representation of a camp

and its usual environment. But these compositions were said to be purely decorative. The use of the design elements is interesting. We find here the tent design used to represent a mountain in which case the door becomes a natural mark of the surface. The rectangle, or box design, becomes a tent in one place and a footprint in another. The mountain and trail upon moccasin No. 5 is a special significance given a common design in decorative art, that is, a triangle with a bar upon its apex. This combination is so common that not even this can be taken as an original putting together of design elements for specific representation. In this type of decorative art we have a reading-in of ideas not necessarily dependent upon other uses of the design. A woman sees no inconsistency in speaking of a bag-pattern as representing tents. She, also, uses identical designs in the same whole as representations of different objects. In short, we find a use of well known designs as symbols for natural objects without other motives than those of representation.

So far we have considered cases in which the motives of design were purely decorative. In the conventional ornamentation for the buckskin dresses of women we find a good example of the mixed motive. Upon such garments we find a *U*-shaped design representing the turtle, while the large beaded area represents the lake in which the turtle lives. Within the knowledge of old women, now living, the whole design was symbolic and expressed a prayer to the power of the turtle; a power that was believed to preside over the functions peculiar to women. At present this design is still known as the design of the turtle, but is placed upon the dress as a conventional decoration rather than as a prayer. The turtle is still appealed to in such affairs, but in other ways. In this instance we have what appears to be the passing of a motive, highly religious, into one of mere decoration.

Formerly it was the custom to place a symbol of the turtle upon the head-piece of an infant's cradle, for reasons suggested above. Now we find cradle designs said to represent the turtle, for no other reason than that such was once the duty of the mother. These so-called turtle designs are again compositions of simple elements used in other places.

The pointed diamond design upon moccasin No. 4, Plate II, is often used as the sign of the turtle, but in other places signifies the fork of a tree, etc. But the *U*-shaped design upon the dress

is rarely seen elsewhere and is believed to be an abbreviated form of the pictograph of a turtle. This may be set down as one of the few very probable examples of the transition of a realistic representation to a conventional symbol. But taking the symbolic motive of the turtle as a whole, we find again the same reading-in of resemblance as in pure decorative art.

So far, we have considered the work of women alone. While the men do not make moccasins or indulge in bead work, they do paint symbols upon objects. They often give specific directions as to what designs shall be placed upon objects intended for themselves. They also use designs to represent deeds in war and religious experiences. In Plate II, Nos. 1, 2 and 3 are decorations of this type.

In No. 1 the white beaded bands represent the war path in winter. The triangular figures represent tents. One of the small squares in red implies that the wearer was wounded on the war path. Upon the heel the red square is found between two blue ones; this implies that an enemy was killed by the wearer when he received his wound. The whole design is to herald the fact that the wearer went on the war-path in winter, killed an enemy and received a wound.

The large area upon the instep of No. 2 is in red, to represent blood and the triangular figure within the same, an arrow-point. The triangular designs upon the border represent hills and the small spots in them the places where bullets strike the hills. The small rectangles represent men looking out from between the hills.

The design upon No. 3 represents a battle. The blue area upon the instep represents night. The triangular figures are the tents of the enemy. The small rectangles upon the border tell us that enemies were killed. The idea is that the wearer participated in a successful night attack upon a village.

As in the case of the work of women, we find simple design elements used to represent objects, but here, the kind of ideas represented and the associations in which the objects appear are quite different. The men do not concern themselves with the technical names of designs, that is a woman's affair, but they do have a consistent scheme by which they can understand the import of a design according to their mode of interpretation. This is again a reading-in process. As a further example of this sex-difference in art interpretations it may be noted that the design



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PLATE II.

upon moccasin No. 4, Plate II, used by the women to represent the turtle, is generally used by the men to represent a person—often the body of an enemy.

The Dakota possess symbols that are strictly religious in motive and are too sacred in association to be employed freely in decoration, but these fall outside of the limits of a discussion of decorative art. This art is largely pictographic, though it contains several interesting symbols, the realistic origins of which are far from obvious.

In general, then, we find the decorative art of the Dakota making use of designs of conventional forms, but of varying significance. In most cases the meaning given a design is a reading-in, a mental act, and in so far as the form of the design is concerned, a secondary characteristic of primitive art. Further, we find the different tribes of the Plains using identical designs for the expression of entirely different ideas, just as we find in case of the two sexes of the Dakota. This makes it probable that many of the decorative designs employed by the Dakota were borrowed objectively and afterward given interpretations in conformity to the prevailing mode of symbolism. Thus we find two factors in this art, a style of design and a mode of interpretation and expression. Either may be independent of the other and both must be considered in any general theory of the development of art. Whether the peculiar designs used by these tribes for mere decoration were once real symbols and, hence, of a realistic origin is a matter of speculation; but there is good evidence that the types of symbolic thought for the several Plains tribes are not identical and that they are often expressed by symbols that originated among other peoples.

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